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THE CHEMIST AND DRUGGIST

ESTABLISHED 1859

The weekly newspaper for pharmacy and all sections of the drug, pharmaceutical and fine chemical, cosmetic, and allied industries

Official organ of the Pharmaceutical Society of Ireland and the Pharmaceutical Society of Northern Ireland

Volume 173

June 18, 1960

No. 4192

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The CHEMIST AND DRUGGIST

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JUNE 18, 1960

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Purchase Tax NEW LIST OF EXEMPTED DRUGS

THE Treasury has made the Purchase Tax (No. 3) Order, 1960 (S.I., 1960, No. 968) which extends the schedule of essential drugs and medicines exempted from purchase tax. The Purchase Tax (No. 1) Order, 1960, and the Purchase Tax (No. 2) Order, 1960, are revoked.

New items exempt from tax and extensions of existing items (which are in italics) are given below. The name of the corresponding proprietary product affected is, where known, given in square brackets.

HEAD I

Any one of the following substances, prepared for use by injection:—Aqueous solutions of amino acids with vitamins and mineral salts, whether with or without *one or more of the following substances, that is to say, sorbitol, casein hydrolysate, glucose and ethanol* [Aminosol Vitrum].

HEAD II

Aluminium glycinate, whether or not mixed with *either or both of the following substances, that is to say, magnesium carbonate and magnesium trisilicate* [Glycinal];

4-tert-Butyl-2-chlorophenyl methyl methylphosphoramidate;

2 - o - Chlorobenzyl - thio - 4 - dimethylamino - 5 - methylpyrimidine hydrochloride;

Chlorthenoxazin mixed with phenacetin [Valtorin];

Cyclophosphamide [Endoxana];

Dequalinium salts, 1-alkyl-4-amino-quinaldinium salts, and mixtures of these substances;

3:3'-Diamidinocarbaniide, and salts thereof;

2:4-Dichlorobenzyl alcohol with amylm-cresol [Strepsils];

1-p-Hydroxyphenyl-2-(1-methyl-2-phenoxy-ethylamino) propan-1-ol hydrochloride;

Inproquone, and the 3:6-dimethoxyethoxy analogue;

Metformin [Glucophage];

Quaternary cationic detergents, with bactericidal activity, and mixtures of two or more of such substances;

2,3,5-Tri-(1-aziridinyl)-1:4-benzoquinone;

HEAD III

Diethylaminoethyltheophylline camphorsulphonate [Millo-phylline];

alpha - Ethyl - alpha - methyl - succinimide;

Furazolidine, and its 5-morpholino-methyl derivative;

Guanethidine sulphate [Ismelin];

N - Methyl - 5 - methylazadecylamine methobromide, in a polymerised form [Polybrene];

Pentaerythritol tetranitrate, *whether or not mixed with glyceryl trinitrate*;

Phenazocine, and salts thereof [Narphen];

Piperazine adipate and piperazine citrate (Transferred from Head II);

Piperazine, and salts thereof, prepared for anthelmintic use; (Transferred from Head II);

Sennosides A and B, and salts thereof; preparations of senna fruit standardised in terms of sennosides A and B [Senekot];

Sulphinpyrazone [Anturan];

Thioridazine, and salts thereof [Meleril];

Any antimicrobial substance being: (a) a substance synthesised by bacteria, fungi or protozoa; or

(b) a substance the chemical properties of which are identical with, or similar to, any substance within paragraph (a) above; or

(c) a salt or derivatives or a salt of a derivative of any substance within paragraphs (a) and (b) above; or

(d) any substance within paragraph

(a), (b) or (c) above mixed with one or more of the following substances, that is to say, *NN'-di-(4-amino-2-methyl-6-quinolyl)urea hydrochloride*, kaolin, parahydroxybenzoic esters, quaternary ammonium bactericides and salicyl alcohol [Cambison].

HEAD IV

Vaccines prepared from attenuated strains of poliomyelitis virus.

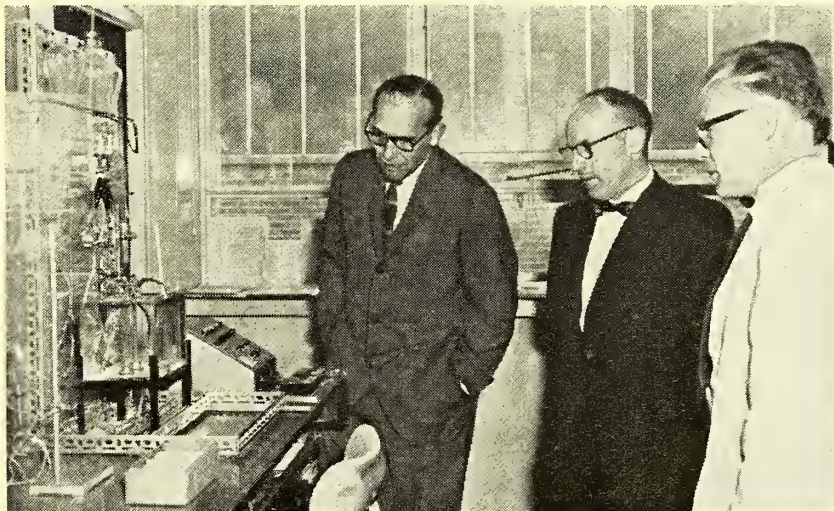
All vaccines have now been re-grouped under this head.

All drugs and medicines previously exempt under the revoked Orders remain exempt under the new Order but certain of the drugs now appear under the name approved by the British Pharmacopœia Commission. The Order became effective on June 15.

Drug Trade Appeal Fund

BIENNIAL MEETING

THE biennial meeting of the subscribers and trustees to the Drug Trade Appeal Fund was held in London on May 26, when the accounts were duly adopted. The biennial report indicated that the trustees had received no applications that fell within the rules. The officers and trustees for the next two-year period were re-elected as follows: *Chairman*, Mr. J. C. Hanbury; *Treasurer*, Mr. L. Johnson; *Secretary*, Mr. A. Duckworth; *Trustees*, Messrs. A. Aldington, J. C. Hanbury, C. M. Hill, W. S. Howells, Donald W. Hudson, L. Johnson, C. W. Robinson.



A FLYING VISIT: Dr. G. Rieverschl (director, commercial development division, Parke, Davis & Co., Inc., Detroit, U.S.A.) recently paid a flying visit to the Hounslow factory of Parke, Davis & Co., Ltd., as part of a general European tour. He was accompanied by Dr. J. Controulis (head of the marketing department, commercial division), and is seen here inspecting some of the electronic drug-testing equipment built by Dr. J. A. Holgate (deputy director, pharmaceutical research department, Hounslow), who is also in the picture.

IRISH NEWS

THE NORTH

Ulster Chemists

MONTHLY MEETING OF EXECUTIVE

THE resignation, after thirty-one years in office, of Mr. W. J. Rankin (honorary treasurer, Ulster Chemists' Association) was accepted with great regret by the Association's executive committee at its meeting in Belfast on June 7. Mr. W. J. Moffett (president) was in the chair at the meeting. In a letter to the committee Mr. Rankin stated that it was with great reluctance and regret that he had to resign but he was acting under medical advice. His resignation would take effect at the end of the year. The chairman said that members would be perturbed to receive the news. Mr. Rankin had served the Association faithfully and well for thirty-one years. He was appointed honorary treasurer in 1929 in succession to his father who had acted in that capacity from the foundation of the organisation. They were all glad that Mr. Rankin had recovered so well from his recent illness but understood the need for him to take things much easier. Other members of the committee paid tribute to Mr. Rankin's great attachment to the Association and the tremendous work he had done over the years, but it was agreed that under the circumstances, the committee had no option but to accept, regretfully, Mr. Rankin's resignation. A member's complaint about the small remuneration offered him when he was called as a witness by the police in a court case was discussed. In view of the necessity of employing a locum during the chemist's absence from his pharmacy, it was thought that a scale of remuneration should be fixed as in the case of other professions, and it was decided to ask the Council of the Pharmaceutical Society of Northern Ireland to look into the question. A complaint from a member who resented treatment received from a manufacturer because he had refused to retain unordered goods was considered and the secretary was instructed to write to the manufacturer on the member's behalf. The secretary reported that a complaint, received from a member responsible for rota service during the Easter holidays, that a neighbouring chemist had also offered a service, had been referred to the Local Pharmaceutical Committee.

Health Services Board

MEDICAL LETTER FOR DOCTORS

THE first issue of an American medical letter on drugs and therapeutics, together with a covering memorandum, has been sent to all doctors on the medical list of the Northern Ireland General Health Services Board. That was reported by the medical advisory committee at the May meeting of the Board in Belfast. The committee also reported that the second issue was ready. Members of the Board expressed satisfaction with the reproduction of the letter and the promptness with which it had been done. The secretary was instructed to arrange, if

possible, for notes to be added to the letter where necessary instead of on an attached slip. The executive committee reported that a letter had been received from the Ministry approving the Board's proposals regarding the drug testing scheme. Accounts totalling £266,941 for pharmaceutical services were considered and passed for payment.

THE REPUBLIC

A Phytopharmacy Course

POSTAL INSTRUCTION FOR PHARMACISTS

THE Post-graduate Education Committee of the Pharmaceutical Society of Ireland is making available to all pharmacists a specially prepared postal course in applied phytopharmacy and

related subjects. The main headings are weedkillers; plant pathology and treatment; animal nutrition and parasitology; insect pests and their control; fertilisers; and soil science and analysis. Full details are given in an announcement on another page of this issue. The fee for the course is £1. It is open to all pharmacists and should have a strong appeal both to pharmacists in country districts and to those in suburban areas, where many garden lovers seek the views of those competent to advise on technical problems. The president of the Pharmaceutical Society of Ireland has approved the appointment as director of post-graduate education of Mr. Donald W. P. Boyd, M.A., chairman since its inception of in 1955 of the Society's post-graduate study group.



GOLFERS' PRIZE-GIVING: At left, Mr. A. C. Martin (left, Imperial Chemical Industries, Ltd.) congratulates Mr. A. A. Cullinane on winning the L.C.I. prize in the strokes competition at the annual outing of the Irish Chemists' Golfing Society (see p. 721). Mr. J. F. Lynch (treasurer) is in the centre of the group. At right, Mr. M. Lohan receives the president's prize from Mr. Fahey.

NURSES AND CONTROL OF DRUGS

Royal College of Nursing recommendations

A SUMMARY of the recommendations to be submitted by the Royal College of Nursing to the Interdepartmental Working Party which is reviewing legislation concerning medicines has been published in the *Nursing Times*, June 10. The College considers that new drugs should be controlled "in some way" at the time of manufacture until proved to be "safe" rather than be put on a schedule only after they have been found to be potentially dangerous.

Another recommendation is that substances included in Part B of the Fourth Schedule should be treated as First Schedule poisons for storage purposes. The College is concerned "lest the less rigid prescription requirements for Part B substances should not give adequate control of those drugs."

It considers that the British Pharmacopoeia Commission should give new drugs an official name with a minimum of delay to avoid their becoming known by their trade names. Referring to the Pharmacy and Medicines Act, 1941, the recommendations state that the list of diseases contained in section 8 of the Act (those for which advertisement regarding treatment is prohibited) should be more comprehensive, and should include all those diseases for which the public are particularly prone to seek "quack" remedies. All provisions regarding the

labelling of drugs and medicines should be brought together under one Bill. "The sale of medicines by persons who are not pharmacists should be considered, with particular reference to the sale of advertised medicines." There are also a number of recommendations concerning the Dangerous Drugs Act 1951. The College states a standard code of practice with regard to the custody, administration and checking of dangerous drugs and scheduled poisons should be adopted and points out that the Act does not state who should be responsible in hospitals for the checking of drugs before administration.

There should be more publicity in encouraging the public to destroy left-over medicines.

Doctors should make greater use of their powers to have the name of the drug put on the container.

Another suggestion is that the matron of a nursing home should have the custody of patients' drugs under the same regulations as those applying to the storage of drugs in hospitals.

Referring to the Dangerous Drugs Regulations, 1953, Regulation 10 (3), the College considers that no hospital should be entirely without the services of a pharmacist.

The recommendations approved by the College were suggested by a working party that included Mr. G. Bryan (chief pharmacist, Middlesex Hospital).

NEWS IN BRIEF

THE Kodak Brownie 44A camera (see *C. & D.*, October 31, 1959, p. 369) has won a 1960 Design Centre award.

THE Institute of Packaging is holding its first residential packaging education course at Reading University, April 9-22, 1961.

THE Board of Trade has issued an Order (published as S.I., 1960, No. 959) imposing an anti-dumping duty of £19 per ton on sodium chlorate originating in the Soviet zone of Germany, effective June 9.

SIR Charles Dodds has been appointed chairman of the inter-departmental Advisory Committee on Poisonous Substances used in Agriculture and Food Storage in succession to Sir Solly Zuckerman.

FACED with twelve charges of forging prescriptions with intent to defraud, Mr. Myer Daulby, M.P.S., 45 Widnes Road, Widnes, Lancs, reserved his defence at the Widnes magistrates' court on June 10. He was sent for trial to the Liverpool Quarter Sessions.

SPORT

GOLF.—IRISH CHEMISTS' GOLFING SOCIETY, annual outing held at Rosslare, May 22-25. L.C.I. PRIZES, *Strokes*, 1, A. A. Cullinane, Waterford (18), 68; 2, K. Banks, Dublin (18), 70; *Bogey*, 1, J. Cranitch, Killarney (11), all square; 2, R. J. Daly, Cork (6), 1 down, *Best First Nine*, M. L. Cashman, Dublin; *Best Second Nine*, J. T. Foley, Dublin, *Singles v. Bogey, Class 1*, 1, J. Hanley, Limerick (5), 3 up; 2, D. P. Mulvey, Dublin (5), 2 up; *Class 2*, 1, C. J. Staunton, Dublin (12), 1 up; 2, P. Morgan, Dublin (12), 2 down; *Class 3*, 1, W. F. M. Keys, Dublin (21), 1 up; 2, J. Casserly, Dunmanway (18), all square, *President's (Mr. P. H. Fahey) Trophy*, 1, M. Lohan, Galway (16), 69; 2, A. Gleeson, Birr (8), 71; 3, P. Delaney, Waterford (10), 73; 4, E. W. Massey, Dublin (15), 73, *Bogey (Strand hotel) Prize*, 1, A. Hensley, Dublin (16), 1 down; 2, J. P. Holland, Dublin (14), 2 down; 3, R. J. Daly, Cork (5), 2 down; 4, J. Lennon, Dublin (8), 2 down; *Captain's (Mr. J. P. Holland) Prize*, 1, P. B. Joy, Clonmel (10), 69; 2, T. J. Lynch, Dublin (7), 70; 3, J. T. Foley, Dublin (14), 70; 4, J. B. O'Connor, Dublin (22), 71, *Bogey*, 1, R. J. Tierney, Dublin (10), 1 up; 2, M. G. Murphy, Mitchelstown (5), all square; 3, D. P. McHugh, Athy (8), 1 down; 4, P. Fahey, Tullamore (16), 1 down.

At the captain's dinner, Mr. J. P. Holland (captain) paid tribute to "the enormous amount of work" being performed by the Treasurer (Mr. T. J. Lynch), who was now combining the office of Secretary with the other office which he had looked after with such distinction.

ULSTER CHEMISTS' GOLFING ASSOCIATION, at Royal Belfast golf club, Craigavad, on June 8, *McMullan Cup*, 1, J. N. Hogg; 2, T. Bogues; 3, R. Foye; *Best gross*, H. Cowan; *McCutcheon Trophy*, 1, H. Mahood, 69; 2, N. Millar, 71; *Bogey Points*, J. McErlan, 41; 2, S. Stevenson, 38; *Visitors' Prize*, T. Young, 38.

LOCAL OFFICERS

PHARMACEUTICAL SOCIETY

Harrow Branch.—*Chairman*, H. Treves Brown; *Vice-chairman*, Miss V. W. Burrell; *Secretary*, G. Raine, 5 Parkfield Avenue, Harrow, Middlesex; *Treasurer*, W. S. Bowman.

Manchester Branch.—*Chairman*, E. Cronin; *Vice-chairman*, Miss K. Applewhite; *Treasurer*, H. Burlinson; *Secretary*, A. E. Thorpe, 4 Pinfold Drive, Cheadle Hulme, Chcs.

Western (London).—*Chairman*, I. H. Williams; *Vice-chairman*, Mrs. A. J. P. Turner; *Treasurer*, C. Evans; *Assistant Secretary*, A. A. Kennett; *Social secretary*, S. J. Turner; *Secretary*, J. D. Singer, 1 Russell Gardens, London, W.14.

TOPICAL REFLECTIONS

By Xrayser

Home of the brave

Mr. H. Ridehalgh's impressions of pharmacy in the United States of America (p. 708 *et seq.*) suggest that the land of the free is, of dire necessity, the home of the brave. The picture presented by the author is one of such cut-throat commercial competition that one wonders how a pharmacist with a highly developed professional outlook would fare. Discounts with prescriptions, free-of-charge vitamins in the bonus stage of a year's supply, mail-order pharmacy clubs, price-cutting wars, hand in hand with "bacon and eggs, toast, coffee, etc., all for 49 cents" make up a picture of pharmacy that has not, somehow, driven me to seek out the travel agents with a view to joining in the fun. Perhaps the most significant statement by Mr. Ridehalgh is that "sickness is so costly that they [the American people] stuff themselves with vitamins to try to keep illness away." There is, of course, no health service as we know it, and doctors, pharmacists and manufacturers have spent large sums of money in obstructing a service of the pattern we know—which may be of substantial financial benefit to those who subscribe to the fund, but is unlikely to alleviate the anxiety of the consumers of vitamins which, the author tells us, are "enormous business" in the States. I turned from "Pharmacy among the skyscrapers" to a rereading of a certain "Statement upon Matters of Professional Conduct," which, by contrast read like a pastoral poem. One could almost hear the lowing herd wind slowly o'er the lea. One would like to think, despite the impressions of Mr. Ridehalgh, that somewhere—perhaps in Hickory Grove, Missouri—there is still an old-time druggist who, to quote O. Henry, "percolates his own paregoric and rolls his own pills."

Retirement paradox

The Council of the Pharmaceutical Society turned their minds, at their June meeting (p. 703) to a communication from the British Medical Association. The letter dealt with a resolution passed at the annual conference of Advisory Councils on Occupational Health, expressing the view that professional bodies should give a lead by considering means of employing more retired men and women on a part-time basis. Not surprisingly, the Council decided to reply that there was no problem in pharmacy in that direction. Time was when the newly qualified left the examination room clutching their certificates, only to join in a mad scramble to find some opportunity of using their hardly won qualification. Strings were pulled to try to get to the head of the line, and anxious applicants did not sneer at £3-4 a week. The retired were not in the race. Today, the scramble is among prospective employers, who stand outside the examination rooms dangling pieces of eight and offering to buy a house and find a wife . . . "if only." The whole situation seems incredible to those who qualified in the '20's and '30's of this century.

A pharmacy required

Not unconnected with the changes indicated in the above paragraph is the letter in your issue of June 6, from the chairman of a tenants' association on a housing estate, appealing for the establishment of a pharmacy in the area. Again one's mind goes back to the time when new pharmacies were opening in areas already well enough supplied, and there was a struggle to make ends meet. The problem in new housing estates is that there is nothing in the shape of passing trade comparable with that found in main thoroughfares, and the pharmacy so placed is entirely dependent on the resident populace who are, in many such quarters, amply catered for—in many of the goods once regarded as the province of the pharmacist—by travelling shops. Those large vans have established connections before the building of the shops has been completed, and they provide goods in surprising variety. I hope the estate will get its pharmacist and that the residents will give him the support he needs. It is a matter for speculation, too, how many other "pharmacies wanted" paragraphs appear in local newspapers. The one noted may be but the top of an iceberg whose main bulk lies hidden.

MEMORANDUM ON MEDICINES LEGISLATION

County Councils' views put to Interdepartmental Committee

A CALL for a strengthening of the law so as to remove any doubt about the right of a local authority to require reasonable precautions to be exercised by persons exposing poisons for sale, and to prohibit the sale of poisons by the self-service method, is made by the County Councils Association in its memorandum submitted to the Interdepartmental Committee on Legislation concerning Medicines. The Association points out that the sale and storage for sale of poisons included in the First Schedule to the Poisons Rules are subject to prescribed precautions, which do not apply to some poisons in Part II of the Poisons List (such as, for example, strong solutions of ammonia, phenolic disinfectants and a number of agricultural, horticultural and industrial poisons).

Those are sometimes displayed for sale in shop doorways, on low counter stalls in departmental and self-service stores and in other positions where they may easily be pilfered by children. The right of the local authority to require precautions against pilfering and mischievous or accidental damage by keeping such poisons out of reach of members of the public has been challenged in a number of cases, particularly by proprietors of departmental and self-service stores.

Control of "Storage for Use"

The Association regards as a further weakness of the Pharmacy and Poisons Act, 1933, that there is no provision for controlling the keeping and storage for use of poisons as distinct from their storage for sale; or for the safe disposal of empty containers in which there often remains a dangerous residue. There have been instances in which open containers of, for example, arsenical sprays have been left unattended with spraying machinery at the roadside or in other unprotected places overnight. There have also been instances in which empty containers with dangerous residues in them have been carelessly deposited on rubbish tips, in ditches, etc.

The Association holds that the law should be strengthened to require users as well as sellers of poisons to take adequate precautions for their safe keeping and storage, so as to ensure that they are not accessible to the public at large, and that empty containers are safely disposed of.

The matter was raised with the Home Office by the Association during 1959, and a reply was received stating that prolonged consideration had been given some years ago to the possibility of amending the Poisons Rules so as to require poisons to be kept in safe storage in a manner that did not render them accessible to persons who might be endangered thereby. Considerable doubt had then been felt about the power of the Secretary of State to make rules under the Pharmacy and Poisons Act in respect of storage and disposal of poisons after sale, and the Poisons Board had advised that, even if such power existed, it would be largely un-

enforceable in the absence of any power of inspection in respect of users, as opposed to sellers, of poisons.

The Association subsequently informed the Home Office that its members remain convinced that further regulations covering the storage and transport of poisons are desirable and that, if necessary, amending legislation should be sought for the purpose.

Some Present Authorities Too Small

The Association further points out that the county council is the "food and drugs authority" for every area within the county for which no other council is for the time being that authority. For practical purposes that means that, in the majority of counties, the county council is the food and drugs authority for all areas within the county except county and non-county boroughs and urban districts having populations, according to the last-published census, of 40,000 or upwards. The Association takes the view that a population of 40,000 is totally insufficient to justify the exercise of food and drugs functions by authorities of that size and that the time has come to amend the law in that respect. Its memorandum states:—

"Whilst this view relates generally to all food and drugs functions, it applies particularly in regard to those duties which relate to drugs. Many of the drugs and medicaments handled by pharmaceutical chemists, particularly those which may only be supplied on prescription, are highly complex substances calling for a specialised knowledge in relation to inspection, sampling and analysis. There is need for systematic but discriminating sampling of drugs whereas, under present conditions, it can happen that officers of a number of neighbouring food and drugs authorities take samples of the same drug at different chemists' shops or at branch shops belonging to the same chemist. Such duplication is most undesirable, but is almost inevitable where a number of small food and drugs authorities exist side by side."

For those reasons the Association strongly urges that any amending legislation should confine the exercise of those functions to county and county borough authorities, and should give those authorities the power to combine to exercise them.

With regard to substances controlled under Part I of the Therapeutic Substances Act, 1956, the Association says there is, in fact, far less need for testing such substances, because the Act imposes a licensing control over premises in which the substances are made.

In the control of prescriptions dispensed by pharmacists, the Association takes the view the National Health Service testing scheme cannot be said to represent a sufficient control over the drugs and medicines on general sale; and that the sampling rate should be stepped up. "If further testing of that type of article is desired, it could be achieved by a provision, similar to that contained in S.I. 1958, No. 214, for

those articles to be available to sampling officers under the Food and Drugs Act."

Attention is drawn to the need for an amendment of Section 113 of the Food and Drugs Act, 1955, which enables a defendant to require his vendors or suppliers to be joined in the action as defendants and in certain circumstances enables the prosecuting authority to proceed directly against a third party whose act or default resulted in the offence. Such amendment is necessary, says the memorandum, as to permit that procedure to operate if the suppliers, manufacturers or other persons concerned are in Scotland. At present the procedure cannot be invoked in respect of third parties residing over the border, with the result that, for example, a defendant retailer in England cannot require a Scottish manufacturer or wholesaler to be joined in the action, nor can the prosecuting authority proceed directly against a third party resident in Scotland as the person by whose act or default the original offence was committed in England or Wales.

A Permanent Advisory Body

On new drugs and medicines the Association suggests that consideration be given to the setting up of a permanent advisory body including medical practitioners in its membership (among them at least one experienced in pharmacology) and that such a body should be empowered to recommend permitting or prohibiting the sale of drugs to the public after consideration of evidence of satisfactory clinical trials.

Such a committee should also be empowered to publish annual reports upon its work, so that members of the public might be better informed upon the whole question of taking proprietary medicines.

"Total sales of such medicines are reported to be in the region of £50 million or more per annum and opinion is steadily growing that self-medication without proper diagnosis is, at the least, wasteful, and there may be many instances where harm may be caused to the taker of drugs. . . . Many drugs, having quite powerful effects, are not necessarily poisons and unlikely therefore to be considered as such by the Poisons Board. This would seem an additional reason for such an advisory body and for control of the sale of such drugs by a Minister acting on the advice of the advisory body."

The Association is especially concerned about the need for protecting the public from misleading advertisements for drugs and more particularly for ordinary household remedies. Advertisements, whether in newspapers, or television, or elsewhere, which suggest that the use of such drugs is approved by doctors or other medical authorities or that they are used or tested in hospitals should be prohibited, and advertisements depicting pseudo-scientific demonstrations purporting to show the manner in which household remedies

act on the human body should also be prohibited.

It is pointed out that the generality of provisions of Section 6 of the Act (false labelling and advertisement of a food or drug) apply to both food and drugs, with the notable exception of subsection (4), which is restricted to food, and contains a declaration that, for the purposes of the section, "a label or advertisement calculated to mislead as to the nutritional or dietary value of any food is calculated to mislead as to the quality of the food." The Association urges the introduction of a provision on similar lines for drugs in respect of labels and advertisements likely to create an erroneous impression regarding character, value, merit or safety, and records itself as being particularly impressed by a precedent set by the Canadian authorities, whose regulations are intended to protect the public against false claims. Similar provisions, it considers, should be operative in this country. Attention is also drawn to a requirement, understood to be in operation in the United States, whereby the labels of all bottles and other containers of poisons or dangerous substances carry directions as to antidotes and treatment in case of accidents. In a note on the

Pharmacy and Medicines Act, 1941, the Association recalls that sections 8 and 9 of that Act deal with the prohibition of advertisements relating to certain diseases or to abortion and mentions difficulties that have arisen owing to the interpretation of the term "substance recommended as a medicine" (as in the leading case of Potter & Clarke, Ltd., v. the Pharmaceutical Society of Great Britain (1946)). It is urged that, in any new legislation, the definition of "substance recommended as a medicine" at present contained in Section 17 of the Act should be clarified.

Responsibility of Packer

The Association considers that the packer should be primarily responsible for the proper and correct labelling of prepacked articles, and that an innocent retailer should have the opportunity of joining in any proceedings, any person to whose act or default he considers an offence with which he is charged was due, and that the prosecuting authority should, if it thinks fit, be enabled to by-pass an innocent retailer (i.e., that a provision similar to that contained in Section 113 of the Food and Drugs Act, 1955, should be embodied in any new legislation).

PERSONALITIES

MR. S. D. PASKE, M.P.S., Seagry Road, London, E.11, was recently elected president of East Ham Rotary club.

DR. G. F. SOMERS, pharmacologist of the Distillers Co. (Biochemicals), Ltd., Speke, Liverpool, 24, recently attended the first Hungarian conference for therapy and pharmacological research.

MR. J. K. SAMBROOK, M.P.S., Newcastle-under-Lyme, Staffs, has been elected president of the Newcastle Rotary club. Mr. Sambrook is also a member of the Staffordshire Pharmaceutical Committee.

MR. R. E. LEWIS (workshop general manager of Evans Medical, Ltd., Speke, Liverpool, 24), who has been

awarded the M.B.E. in the Queen's Birthday Honours list (this page), has been a member of the company's staff for nearly thirty years and already holds a B.E.M. awarded during the 1939-45 war.



He served as a Flight Sergeant with Fighter Command, and was twice mentioned in dispatches. Mr. Lewis was also secretary of the United Kingdom pharmaceutical productivity team that visited the United States in 1950.

MR. BERNARD E. COOK, who has been elected the first president of Johnsons of Hendon, Ltd., has been a director of the company for fifty-eight years, being elected to the board within a few months of joining the company early in 1902. Of that period, he had

been chairman for over thirty years when he resigned in 1959. At the request of the board he continued as a director for another twelve months, but had recently intimated that he wished to retire this year. His acceptance of the office of president was received by his colleagues with acclamation and they all paid tribute to the most distinguished service he had rendered to the company. His many friends will wish him a happy period of retirement in his garden and in Epping Forest, of which he is one of the three Verderers.

BIRTHDAY HONOURS

THE following awards are included in the Queen's Birthday Honours list published on June 11:—

Knights Bachelor: RICHARD HUGH JESSEL (lately deputy chairman, Export Credits Advisory Council); WILLIAM HUNTER MCFADZEAN (president, Federation of British Industries); GORDON BRIMS BLACK MCLIVOR SUTHERLAND (director of the National Physical Laboratory).

Commander, Order of the British Empire (C.B.E.): PROFESSOR N. S. BAYLISS (professor of chemistry, University of Western Australia); MR. J. S. CARTER (chief alkali inspector, Ministry of Housing and Local Government); DR. I. D. GRANT (lately president, College of General Practitioners).

Officer, Order of the British Empire (O.B.E.): MR. L. GODBER (a director and the general manager, Newton, Chambers & Co., Ltd., Sheffield); MR. R. E. LEWIS (works general manager, packaging and distribution division, Evans Medical, Ltd., Speke, Liverpool); MR. N. K. SMITH (technical director, Murphy Chemical Co.).

British Empire Medal (B.E.M.): MR. S. G. DALY (lately foreman, T. J. Smith Smith & Nephew, Ltd., Hull).

BIRTHS

TAYLOR.—On June 2, to Georgina Taylor, wife of Mr. Percy Taylor, M.P.S.N.I., 7 Green Road, Knock, Belfast, 5, twin sons.

DEATHS

BLACK.—On June 8, Mr. David Black, M.P.S., 34 Riverside Road, Glasgow, S.3, aged eighty-five. Mr. Black qualified during 1896.

BROWNLOW.—Recently, Mr. Alan Foster Brownlow, M.P.S., 12 Bridge Street, Stratford-on-Avon, Warwicks. Mr. Brownlow, who qualified in 1923, took over the Bridge Street business in 1926. He was elected a member of the Stratford borough council in 1945, and was mayor of the town in 1954-55. He was also a member of Stratford-on-Avon golf club and Shakespeare birthday celebrations committee, and a governor of the South Warwickshire College of Further Education.

FOGG.—On May 29, Miss Kate Beatrice Fogg, M.P.S., 17 Park Avenue, London Road, Hildenborough, Kent, formerly of 325 Cromford Road, Langley Mill, Nottingham. Miss Fogg qualified during 1925.

FRENCH.—On June 12, Mr. Andrew R. French, M.P.S.I., North Street, New Ross, co. Wexford, Eire. Mr. French qualified during 1911.

GREENHALGH.—Recently, Mr. Edmund Parkinson Greenhalgh, M.P.S., 142 Broom Road, Teddington, Middlesex. Mr. Greenhalgh qualified in 1916.

GREIG.—In hospital on June 8, Mr. John Greig, M.P.S., 4 Forth Crescent, Stirling. Mr. Greig qualified in 1911.

SINGER.—At his home, Kilmarth, Par, Cornwall, on June 10, Dr. Charles Joseph Singer, aged eighty-three. Dr. Singer, who was the distinguished author of a number of contributions to Annual Special Issues of THE CHEMIST AND DRUGGIST ("Sketches in the History of English Medicine, 1928, 1929, 1930 and 1931; "The First Pharmacopœia," 1954; "Medicine in Anglo-Saxon Times," 1955; and "William Harvey, 1578-1657," 1957), was professor emeritus of the history of medicine, University of London, and renowned throughout the world as a historian of medicine and science. A Londoner by birth, he gained his medical training at St. Mary's Hospital, Paddington, and graduated M.B. in 1905. After some years of work and travel overseas he returned to London to hospital appointments, married a granddaughter of Professor Waley, and with his wife turned to the exclusive study of medical and scientific history, settling in Oxford in 1914. In 1917 he published the first volume of "Studies in the History and Methods of Science," the second in 1920. Appointed lecturer in the history of medicine at University College, London, he was raised to the status of professor in 1931. Among his many great works are "History of the Circulation of the Blood" (1922); "A Short History of Medicine" (1928); "From Magic to Science" (1928) and "A Short History of Science." He was one of four editors of "A History of Technology," published 1954-58.

LEGAL REPORTS

A Pharmacist Fined for Receiving

A PHARMACIST, Ernest Whitcombe, 148 Alexandra Park Road, London, N.22, was fined £100 or six months' imprisonment at London Sessions on June 10 for receiving nine dozen packets of Yeast-Vite tablets, eleven dozen packets of Phensic tablets and six dozen bottles of Penidural mixture, the property of Sangers, Ltd., knowing them to have been stolen. Five other men appeared before the court at the same time on a total of ten charges. One of them, Morris Scott, wholesale chemists' sundriesman, 45 Ludlow Way, London, N.2, was also charged with receiving the same amount of property as Whitcombe, and was fined £75 or four months' imprisonment. Judgment on the four other men, all of them, at the time of the offences with which they were charged, employees of Sangers, Ltd., was postponed for one week. They were William Thomas Goldsmith, assembler, 20 Abingdon Close, London, N.W.1; John Alfred Sutton, van driver, 153 Tufnell Park Road, London, N.7; Frederick Arthur Turner, van driver, 11 Ennis Road, London, N.4, and Vincent Donnelly, fixture hand, 19 Argyle Street, London, W.C.1, all of whom were charged with stealing from Sangers, Ltd., wholesale chemists, 258 Euston Road, London, N.W.1. All six pleaded guilty. Mr. D. West-Russell, prosecuting, alleged that the six had formed a "thieves' combine" that started at the warehouse of Messrs. Sangers and finished at the chemist's shop. The total value of the property involved was £537. Detective-Sergeant R. Losham said that a number of employees of the company appeared to be involved in obtaining the goods, "not all of whom are before the court." The chairman (Mr. H. J. Hamblen) commented: "This firm has been robbed in a shocking manner. . . . So far as Turner, Sutton, Donnelly and Goldsmith are concerned, anyone hearing the evidence would say I should have

no hesitation in passing a sentence of imprisonment on all of you." However, the chairman said he did not propose to pass sentence on them that day. "So far as Whitcombe and Scott are concerned, you are in a different, but shocking, position: members of a reputable profession . . . receiving property under circumstances such as this."

COMPANY NEWS

Previous year's figures in parentheses

H. R. NAPP, LTD.—Mr. E. J. Dowty (chairman) is to retire on June 30, after thirty-two years of active association with the company.

ASHE CHEMICAL, LTD.—Group net trading profit, including income from investments for 1959 is £104,137 (£99,166), less directors' remuneration £8,450 (£6,950), depreciation £14,785 (£12,212), etc. Taxation is £43,635 (£39,098), leaving £35,002 (£33,950). Final dividend, 11 per cent. (10 per cent.), making 16 per cent. for year.

SOUTH AFRICAN DRUGGISTS, LTD. (controlled by Standard Finance Corporation of South Africa).—Group net profit for year ended October 31, 1959, is £117,048 (£451,720 for sixteen months) after tax of £33,758 (£182,967). Attributable to company £97,718 (£426,521) less pre-acquisition profits of certain subsidiaries £2,240 (£168,798). Add goodwill on sale of branch £15,000 (nil) less loss on sales of property £18,216 (£115,241 surplus). No dividend on Ordinary (30 per cent. for period), forward £1,558,908 (£1,554,230 after £58,033 to capital reserve).

BOVRIL, LTD.—In his annual statement with the accounts, Lord Luke (chairman) states that shareholders will be receiving details concerning the re-organisation of the capital structure of the group. This is a comprehensive scheme the objects of which are broadly to modernise the share voting, to simplify administration and management, and to facilitate the future financing of the group's business.

ASPRO-NICHOLAS, LTD.—A fourth interim dividend of 12½ per cent. is declared, bringing the total for year ended March 31 to 34 per cent. (24 per cent.). A three-for-two scrip issue is proposed and the board anticipates, subject to continuance of the present favourable trading conditions, a total dividend of not less than 14 per cent. for 1960-1961, equivalent to 35 per cent. on the present capital. Group profit and investment income increased from £712,138 to £1,000,036, including £73,799 post-acquisition profit of the Griffiths Hughes group, and after charges, including £238,657 (£227,718) depreciation, of £344,948 (£333,925). Tax absorbs £554,219 (£422,566), leaving £445,817 (against £289,572) to which is added unrequired tax of £39,560 (£30,891). Deducting minority interests, the balance attributable to the company is up from £316,899 to £475,675. Reserves receive £226,672 (£123,430), net cost of dividends, including £214,497 (£143,423) for the Ordinary, is £236,126 (£159,493) and the carry-forward is £323,876 (against £310,999).

BUSINESS CHANGES

BIDDLE, SAWYER & CO., LTD., are removing to Haddon House, 2 Fitzroy Street, London, W.1, on June 18 (telephone: Langham 7641).

H. R. NAPP, LTD., are removing to new premises at Commerce Way, Lancing, Sussex (telephone: Lancing 4114), on June 24.

NATURELLE PRODUCTS, LTD., is the new title adopted by H. D. G. (Pharmaceuticals), Ltd., the address of which is now Leeds Road, Lofthouse, Wakefield, Yorks.

EXPANSION PLANS

THE DISTILLERS CO., LTD., announce that their chemical division is constructing, at a cost of about £2 millions, a new acetic acid plant at Hull. The plant will use a new process developed by the D.C.L. research and development department at Epsom and based on the direct oxidation of a light petroleum fraction. The plant is expected to be in operation early in 1962.

THE major capital expenditure projects of Howards of Ilford, Ltd., for 1960, all of which are now well advanced, are the rebuilding on a considerably increased scale of the unit producing cyclic ketones, mainly cyclohexanone and methylcyclohexanone (Sextone and Sextone B) and a substantial extension to the production facilities for sorbitol 70 per cent. syrup. The rebuilding of the remaining section of the aspirin unit will also be undertaken (the rebuilding of the recrystallisation stage was undertaken during 1959). All three projects are planned to be completed before the end of February 1961. When the plant extensions are completed there will be, in each case, considerable excess capacity over the present United Kingdom sales level for those products—in fact sufficient capacity to take care of expected growth in sales for some years to come.

"OPEN MEETING" FOR CONTRACTORS

Lancashire Pharmaceutical Committee's third venture

THE third annual open meeting of the Lancashire Pharmaceutical Committee was held recently at Bury, attracting an audience of over seventy from various parts of the county. The meetings were inaugurated in 1958 with the objectives of bringing the work of the committee to the notice of contractors, providing speakers who could deal with current National Health Service topics, and giving contractors an opportunity of airing both their views and their grievances.

The speakers on the present occasion were Messrs. J. Wright (deputy secretary, National Pharmaceutical Union), T. W. Booth (Clerk to the Lancashire Executive Council) and C. Hindle (superintendent, Bolton pricing bureau).

The annual report of the committee stated there were now 599 shops in the area represented by the Lancashire Pharmaceutical Committee. The drug testing scheme had shown that a very good standard of accuracy had been maintained by contractors. Of 272 drug

samples taken 256 were satisfactory and 16 were referred for investigation. The respective figures for appliances were 53, 51 and two. During the past months, the Committee had been investigating the matter of the analysis of mist. ammon. chlor. co., and the results were in the hands of the B.P.C. Standards Committee. The report reminded contractors to exercise the greatest care in differentiating between cellulose wadding and cellulose tissue and stressed the need for proper storage of dressings, which deteriorate after long periods of storage.

There was nothing further to report about the dispensing costs inquiry, owing to the small number of inquiry forms which were returned, and all the many efforts that the Central Contractors Committee had made had failed because of that factor. It appeared very probable that, in the Lancashire Committee area alone, there were at least forty sets of inquiry forms which had not been returned.

Correspondence

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Thanks to Electors

SIR,—I would like to express my appreciation of the action of the members of the Society in returning me as a Council member for a further period of three years. I will continue to do my utmost to merit their confidence.

ALLEN ALDINGTON,
London, N.15

New Drugs

SIR,—It is to be recommended that all new drugs should be dispensed on prescription only until such time as it is decided that they may be issued to the public free of restriction. It might also be recommended that any such drug (and any P.I. poison) should be inspected or, if it is packed ready for sale, that the proprietary and official names, stated amount and dose, and the purposes for which it is to be taken, should be inspected by the authorised seller on the day of sale. The time has come when the flow of medical novelties and branded products, whether they are properly "vetted" or not, should be supervised more rigorously, and the duty of the authorised seller to perform that supervision and inspection should be incorporated in the poisons regulations.

PHYSICUS

"Gentlemanly" Differences

SIR,—I would like to contrast the evolution of the "ethical" manufacturer with that of the purveyor of advertised proprietary medicines in an attempt to elucidate the Portsmouth and West Hertfordshire motion which, unlike the majority of Branch Representatives, Xrayser seems to have difficulty in understanding. The "ethical" manufacturer originates from those pharmacists, organic chemists and doctors who genuinely sought to discover new and better remedies for disease. The purveyor of proprietary medicines, with his ally the advertising agent, originates directly from the quack of the market place, accompanied by his mountebank. Before the era of chemotherapy and antibiotics it could be argued that the difference between "ethical" and the better proprietary medicines was slight, both classes of medicines being based on galenicals. Equally there was little difference in potency between the herbal simples of the housewife and medicines of the pharmacist and physician: both were evaluated on the basis of rough-and-ready clinical observation. The desire of the public for self-medication was spontaneous and based economically on the desire to save a costly visit to the apothecary. It was *not* artificially fostered by the psychological wiles of the advertising agent. The advent of scientific and virtually free medical treatment relieves the man in the street of the need for self-medication. Honest (shall we say gentlemanly?) Government publicity encourages him to seek early medical advice, and we can look forward to the logical outcome of this: an era of effective preventive medicine.

Under these conditions is it really ungentlemanly of the Government to include, as I hope they will, the purveyors of advertised proprietaries with those of alcohol, tobacco and luxuries for the purpose of indirect taxation

which, after all, is the most easily avoided, for one can eschew the taxed articles without undue hardship. As for "the unrewarding locking up of considerable capital" the pharmacist is not obliged to stock advertised proprietaries but is compelled to carry taxed and rapidly obsolescent "ethicals" to meet the prescription demand.

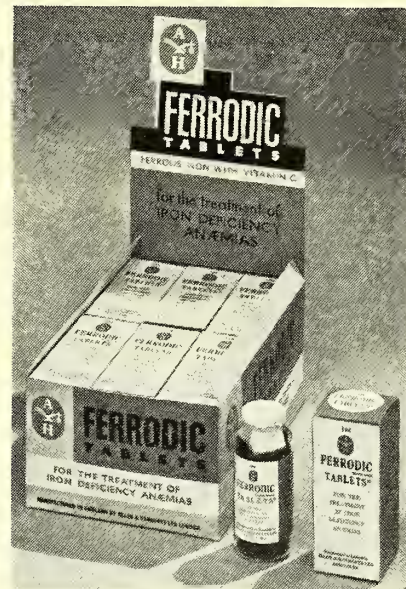
KEITH JENKINS,
Bovingdon, Herts

NEW PRODUCTS AND PACKS

Framycetin Eye and Ear Drops.—Genatosan, Ltd., Loughborough, Leics, are introducing two new specialities: Framygen sterile eye and ear drops, 5 mls, containing $\frac{1}{2}$ per cent. of framycetin sulphate; and Framycort sterile eye and ear drops, 5 mls, containing $\frac{1}{2}$ per cent. framycetin sulphate and $\frac{1}{2}$ per cent. hydrocortisone acetate. They are being sent out in minimum pack of 3/12 doz. and standard pack of 1 doz.

Tetracycline in Britain.—As a result of an alliance between Aspro-Nicholas, Ltd., and Lepetit, S.p.A., Milan, Italy, a new broad-spectrum antibiotic, Ambramycin, is being introduced and marketed in this country by the British company. Ambramycin is the basic tetracycline hydrochloride without additives. In that form it is understood to have been found to be more stable, to produce less side effects, and to provide higher blood levels and better cerebrospinal fluid penetration than either chlortetracycline or oxytetracycline. The antibiotic is active against a wide range of infections and diseases. It is presented in bottles of sixteen, sixty and 250 250-mgm. capsules and has a chocolate-flavoured oral suspension containing amphoteric tetracycline base equivalent to 2.5 per cent. tetracycline hydrochloride in bottle of 60 mls. Messrs. Aspro-Nicholas state that they are embarking on a promotional drive for the product that is believed one of the most intensive and concentrated yet encountered in pharmaceutical circles.

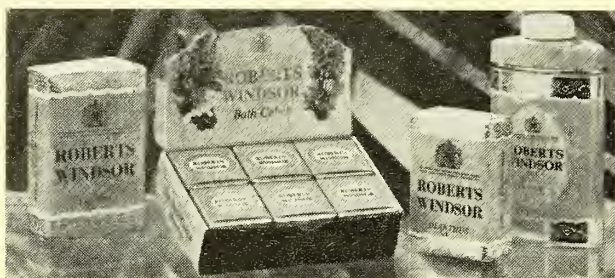
A Less Toxic Haematinic.—Allen & Hanburys, Ltd., Bethnal Green, London, E.2, claim to have introduced in Ferrodic tablets an effective haematinic in which toxicity hazards are greatly reduced. The tablets present ferrous carbonate in a form resistant to oxidation and are prepared by a process to ensure stability and maximum iron assimilation. The acute toxicity of ferrous carbonate in Ferrodic tablets is rated less than one-fifth, and the chronic toxicity less than one-third, those of ferrous sulphate. Ferrodic tablets are understood to be less likely to cause gastric disturbances or constipation. The ferrous iron in Ferrodic tablets is soluble in gastric juice, making it well absorbed and utilised. Ascorbic acid is included in the formula to facilitate absorption of iron and to aid haemoglobin formation. Ferrodic tablets are indicated for the treatment of hypochromic anemias including nutritional anemia and post-gastrectomy iron deficiency, and for administration during periods when the demand for iron is greatly increased, as during pregnancy; in active growth during pre-adolescence;



in menstruation; during pathological bleeding; in surgical procedures; and following the donation of blood. They supply easily assimilated iron that is acceptable and well tolerated by convalescent patients, patients on restricted diets and by elderly patients and young children with impaired appetites. The process of manufacture is claimed to eliminate the customary astringent taste of iron. Flavoured with anise, they are acceptable to children and adults. They are intended to be sucked or chewed, and with normal dental hygiene they do not discolour the teeth. Each Ferrodic tablet contains ferrous iron (as ferrous carbonate), 50 mgm., ascorbic acid 12.5 mgm. They are available in bottle of 100, cartoned and packed in display outer of twelve.

Tan Without Blisters.—Dorothy Gray, Ltd., 29 New Bond Street, London, W.1, have produced a sun-tan lotion which they claim promotes a golden tan without danger of blistering or burning. It is understood to screen and protect the skin, whilst encouraging tan. The product is presented in a light-weight bronze-coloured plastic bottle.





REDRESSED FOR GREATER APPEAL: Roberts Windsor toilet soap, "luxury-size" soap (a new addition to the range), bath cubes and talcum powder, which are available in dianthus, fern, lavender and gorse fragrances, have been given "a glittering border of gold lace," and now appear as shown.

and cleaner and gives more prominence to the words "Punch and Judy." Each flavour of the tooth-paste has a cap of its own colour and a counter display unit holding six cartons is available.

TRADE NOTES

Holiday Closing.—Fred Hurlley & Son, Ltd., Keighley, Yorks, are closing for annual holiday, Friday July 22 until Monday August 8.

A Pack Withdrawn.—The Distillers Co. (Biochemicals), Ltd., Speke, Liverpool, 24, have withdrawn the multi-dose vial pack of 5 mls of Distivir B₁₂ injection containing 50 microgm. of B₁₂ per ml.

Now Tax-free.—Sandoz Products, Ltd., 23 Great Castle Street, London, W.1, announce that Melleril is no longer subject to purchase tax. Being now classified in Schedule 4B of the Poison Rules, 1960, it requires a prescription.

Fixed-price Soft Drinks.—Or-lem, Ltd., 77 Millbrook Road, Southampton, point out that their soft drinks, (Or-lem pure lemon juice and squashes; D'lshus whole orange drink and squashes, and blackcurrant syrup) are sold at fixed prices in uncharged bottles.

Chlorothiazide Patents.—United Kingdom patents nos. 826921, 826922, 826923 and 826924 have now been granted to Merck & Co., Inc., Rahway, New Jersey, U.S.A., covering certain benzothiadiazine derivatives including chlorothiazide, and for processes for their preparation. For the manufacture, tableting, distribution and sale of such derivatives throughout Great Britain, Merck Sharp & Dohme, Ltd., Hoddeston, Herts, have been made exclusively responsible by the patentees, and any other manufacture, distribution or sale is unauthorised by the patentees.

In Line with Formulary.—Glaxo Laboratories, Ltd., Greenford, Middlesex, announce that, from July 1, F-Cortelan cream 1 per cent., B.P.C., B.N.F., will be supplied in place of the original Ef-Cortelan No. 1 (1 per cent.) ointment. The change brings the product into line with the British National Formulary 1960 requirements for hydrocortisone cream. It has entailed adjustment in formulation of the base without significant change of the pharmaceutical or therapeutic character of the preparation. Packs and prices are unchanged. A similar change of name from "No. 1 ointment" to "cream" is being gradually introduced through the whole Glaxo range of non-greasy corticoid skin ointments. The range includes Ef-Cortelan No. 1; Ef-Cortelan-N No. 1; Predsol No. 1 and Predsol-N No. 1 ointments of varying strengths.

Bonus Offers

THE BRITISH DRUG HOUSES, LTD., Graham Street, London, N.1. Sea Legs and Stride. Fourteen to doz. on order for 6 doz. single or assorted.

REXALL DRUG CO., LTD., Loughborough, Leics, "Turn Tan." Fourteen to doz. Till July 31.

ROBERTS CHEMISTS (BOND ST.), LTD., 76 New Bond Street, London, W.1. Okasa. Fourteen invoiced as twelve. On early orders.

Talc and Soap Added.—Abbey Parfumerie Co., Ltd., 7 Oxford Circus, London, W.1, have added to their Gin Fizz range a matching talc and soap.

Ointment in New Pack.—Roussel Laboratories, Ltd., 847 Harrow Road, London, N.W.10, announce a new pack of Proctosedyl ointment: a 15-gm. tube with cannula.

Tan Without Sun.—Claimed the first "tan-without-sun" lotion made specially for women "Night Tan" is issued by Ellanby Laboratories, Ltd., 146 Holborn, London, E.C.1.

Nail and Lip Colours.—Two new nail and lip colours in the Peggy Sage cosmetic range are "tropical orchid" and "perfect peach." The manufacturers, J. C. Gambles & Co., Ltd., 209 Blackfriars Road, London, S.E.1, say that the new colours have been specially prepared to tone with this season's clothes.

Second Fragrance in a Giant-size Talc.—Sidney Margolis, Ltd., Margo House, Hemp Row, London, S.E.17, are now going into production with Margo's "Bouquet of Flowers" talcum powder in giant-size canister—a follow-up of Margo's Mitcham lavender talcum powder. The talc is issued 2 doz. tins to a strong cardboard container.

A Lotion That Tans.—Rexall Drug Co., Ltd., Loughborough, Leics, are launching a new product "Turn Tan" by Lorie of Los Angeles, a division of Rexall Drug Co. "Turn Tan" is a clear solution containing dihydroxyacetone, presented in individual carton with special sponge applicator and direction leaflet. The display outer holds six. National advertising begins in July.

Baby Powder in Squeeze Pack.—Harvey-Scruton, Ltd., Barker Lane, York, claim to be first in the field with a squeeze-pack baby talc. The pack is an "economy size" holding 10 oz. To launch the pack the company has organised a national "bonny baby" competition, one of the judges in which is the editor of *Nursery World*. To the chemist supplying the winner the company is sending a cheque for £50.

Treating Eczema in Animals.—A new injectable form of Biotin has been made available by the veterinary division of Vitamins, Ltd., Upper Mall, London, W.6, for the treatment of milary eczema of cats; paronychia and hyperkeratosis in dogs and cats; seborrhoeic eczema in dogs and cats; loss of coat, condition and appetite; and loss of pigmentation in fur of animals. The product is issued in 50 microgm. ampoules.

Men's Toiletries Range.—Biometica, Ltd., Elstree Way, Boreham Wood,

Herts, have launched a new range of men's toiletries comprising after-shave lotion, tonic hair lotion, pre-electric shave, lather shaving cream, deodorant Cologne, and shampoo. In a Press campaign to popularise the series the Pinaud after-shave is being especially featured. Motif of the advertisements and packs is a busbyed guardsman, and each product is in a carton of distinctive colour.

A New Canned Food for Cats.—A new tinned cat food, Minx, is being launched by Petfoods, Ltd., Melton Mowbray, Leics, with a "King-size" advertising campaign. The formulation of the product has been designed to bring to the trade "the 56 per cent. of cat-owning housewives who regularly feed fish or fish pieces to their pets and to give added variety to those who feed other foods." The pack is an 8-oz. can. The food contains fine whole fish plus added cod-liver oil for extra protection against cat ailments. It is processed to retain the appearance of the best cooked fish.

Tan Lotion cum Beauty Treatment.—Claimed both to prevent the harmful rays of the sun from penetrating the skin (thus enabling a quick tan without blistering and peeling) and to be "a beauty treatment in itself," the "Sun Bath" of Revlon International Corporation, 86 Brook Street, London, W.1, contains the same moisturising ingredients as the company's speciality "Moon Drops." It is non-greasy and non-sticky, soft to apply, immediately absorbed by the skin, and water-repellent. It is available in polythene tube and plastic flip-top bottle.

Redesigned Children's Tooth-paste.—Gordon-Moore, Ltd., St. Swithin's, Norwich, Norfolk, are issuing their Punch and Judy tooth-paste in a tube of new design, introduced to make the

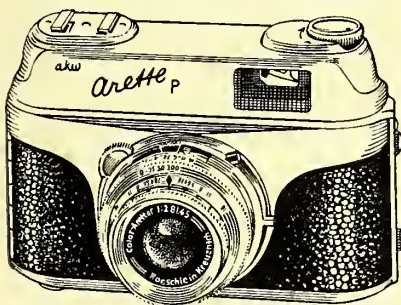


product more attractive to children. The new design is described as brighter

PHOTOGRAPHIC NOTES

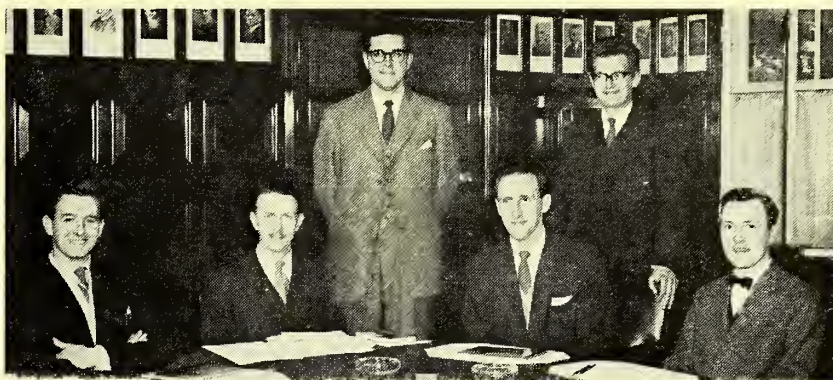
Improved Light Output for a Projector.—A new version of the daylight slide and filmstrip projector of Rank Precision Industries, Ltd., 37 Mortimer Street, London, W.1, has been put on the market. Known as the Daylight II, it incorporates advances in design which nearly double the previous maximum light output, while reducing the gate temperature. That performance has been made possible by including a newly designed aspheric condenser system and a 1,000-watt lamp. All the optical units are easily removable for cleaning and a three-position built-in switch enables the lamp to be switched off leaving the motor and fan running.

35-mm. Miniature Camera.—The Pullin Optical Co., Ltd., 93 New Cavendish Street, London, W.1, are marketing the Arette P 35-mm. camera,



with 45-mm. f/2.8 Color Arette lens and Vario 3-speed shutter. The camera has a reflected luminous frame-type view-finder and a second frame for close-ups, providing parallax compensation. It has leather-covered matt-chromed metal parts, an accessory shoe, depth-of-focus scale, and film-in-use indicator.

Sources of a Photographic Film.—Gnome Photographic Products, Ltd., Caerphilly Road, Cardiff, state that Adox films, of which they are sole agents in the United Kingdom, are now available from the following photographic wholesalers:—Brook, Parker & Co., Ltd., Ashfield, Horton Road, Bradford; T. Dryden Ltd., Landore, Swansea; East Anglian Photographic Services, Ltd., Norwich Road, Wisbech, Cambs; Jonathan Fallowfield, Ltd., 74 Newman Street, London, W.1; James E. Henderson, 377 Union Street, Aberdeen; Hutleys, Ltd., 233 London Road, St. Leonards-on-Sea, Sussex; Kenmore (Merchants), Ltd., 81 Westgate, Bradford, Yorks; John Knox, Ltd., Jaynox



COLOUR SCHOLARS: The six winners of the 1960 Kodak scholarships in colour photography, photographed at Kodak House, Kingsway, London, W.C.2, after their final interview. Left to right: Messrs. William A. Snider, Eric Freeborn, F.I.B.P., F.R.P.S., Keith Jay, David Lowe, Roger Hill and Kenneth Haygarth.

CAMERA LECTURE: Over 300 dealers were present at a lecture on the Rollei camera given in London on May 5 by Mr. H. Peersche (Franke & Heidecke). The meeting was organised by R. F. Hunter, Ltd., 51 Gray's Inn Road, London, W.C.1.



Works, Longton, Stoke-on-Trent, Imperial Buildings, North Shore, Blackpool, 101 Chapel Street, Salford, and 36 Dean Street, Birmingham; J. Lizars, Ltd., 181 Buchanan Street, Glasgow, C.1; and 6 Shandwick Place, Edinburgh; H. Mitchell & Co., Ltd., 141 Northumberland Street, Belfast; Sangers, Ltd., and associated companies; Southall Bros. & Barclay, Ltd., Gooch Street, Birmingham, 5; and James Woolley & Sons, Ltd., Victoria Bridge, Manchester, 3.

Self-adhesive Transparent Corners.—Photopia, Ltd., Newcastle, Staffs, are marketing in a "dispenser" carton self-adhesive photo corners, the Auto-Transparol, that merely need placing in position to adhere instantly to the page of photo album or to wood or glass. The transparent overlap of the corners makes them suitable for all prints, including colour, with or without borders, and whether mounted on light or dark mounts. None of the adhesive touches the print, so the photographs are easily interchanged

without risk of damage. They are presented as a tape, which is drawn out of the carton ready for detachment and use. The roll contains 200.

Mobile Projector Service.—Facilities for the hire of 16-mm. mobile projection units complete with operator, are being made available from the G.B. Film Library. All inquiries regarding the hire of units should be sent to Road Show Department, 1 Aintree Road, Perivale, Middlesex.

Trade Exhibition.—Bradley & Bliss, Ltd., King's Road, Reading, held their annual photographic trade exhibition at a local hotel recently. The exhibition was visited by about 200 retailers who were able to see a comprehensive display of items available on a daily delivery service operated by the company. The items are now available also from the company's branch depôts at Sandwich, Kent, and St. Leonards, Sussex.



STAFF THEATRE PARTY: Instead of holding their usual dinner and dance for staff of the company, A. C. Vallance, Ltd., Photographic Works, Milton Street, Mansfield, Notts, were taken to see "My Fair Lady." Members of the party of 100 are seen here on the steps of the theatre.

SYLLABUS FOR "THE PRACTICE OF PHARMACY"

Details published of Section K requirements

ON the principle that changes in the practice of pharmacy in recent years should be reflected in the teaching of students the subject *Pharmaceutics III* (*The Practice of Pharmacy*) has been introduced into the third and final year of the Qualifying course. The major portion includes what is called "Section K" in the detailed syllabus for teachers and at the annual meeting in 1958 an undertaking was given that its content would be published for general information and comment by the membership.

The syllabus is new in that its purpose is to give students theoretical instruction in the practice of pharmacy which they will meet first during their period of practical training and subsequently when they have obtained registration as pharmacists. As the purpose of the diploma is to produce a practitioner who will be able and capable of practising in all branches of the profession the syllabus must be sufficiently wide to give instruction in all aspects of pharmaceutical practice. With that basic concept in mind a great deal of thought has been given to the preparation of a syllabus, which must still be regarded as experimental to some degree in that changes may have to be made in the light of experience gained in teaching it to students. Periodic changes will have to be made to correspond with changes in the pharmaceutical practices which it includes.

The regulations provide for a three-hour written examination and an oral examination and those parts of the syllabus which do not lend themselves to written examination can be the subject of questions in the oral examination. Instruction will normally be given in the third and final year and occupy perhaps four lectures a week. Much of the instruction requires specialised knowledge or experience on the part of the teacher and when that cannot be provided by the school staff it is expected that calls will be made on the services of visiting lecturers who may be practising pharmacists and specialists in the various branches of the profession.

A major change that will be noted is that the current examination regulations make no provision for a separate examination in *Forensic Pharmacy* as a subject as the syllabus in *Pharmaceutics III* (*The Practice of Pharmacy*) includes a section requiring a detailed knowledge of pharmaceutical legislation which will be the subject of written examination.

Instruction in Section K falls under the headings "General" and "The Practice of Pharmacy" and as applied to the general practice of pharmacy; the pharmaceutical industry; and hospital pharmacy:—

General

I. Outline of the history and development of pharmacy in Britain

1. EARLY HISTORY

The development, growth and influence of the craft guilds.

The Pepperers' Company; the Company of Grocers and Spicers.

The grant of Charter to the College of Physicians 1518; the power, work and influence of that College.

The grant of Charter to the Society of Apothecaries of London 1617; its duties, power and influence.

The dispute between the physicians and the apothecaries; Apothecaries Act, 1815.

The emergence of the chemist and druggist.

The events of the early nineteenth century leading to the formation of The Pharmaceutical Society.

2. THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

Foundation of the Society; Charter of Incorporation, 1843; chartered objects; early history of the Society.

The Supplemental Charter, 1953; its effect on the objects of the Society.

The main provisions of the following legislation in so far as it has affected the Society's work and membership: Pharmacy Act, 1852; Pharmacy Act, 1868; Pharmacy Act, 1898; Pharmacy Act, 1933.

The effect of the National Health Insurance Act, 1911, and National Health Service Act, 1946, on pharmaceutical practice.

The importance of the Food and Drugs Acts and other legislation on the testing of drugs and medicines.

3. HISTORICAL DEVELOPMENT OF GENERAL PRACTICE

The effect of the legislation mentioned in (2) above on the general practice of pharmacy; the emergence and development of corporate bodies; leading cases, e.g., *The Pharmaceutical Society v. London and Provincial Supply Association, Ltd.*

4. HISTORICAL DEVELOPMENT OF HOSPITALS IN GREAT BRITAIN

Monastic origins. Poor law of Queen Elizabeth.

Growth of voluntary hospitals in the eighteenth century.

Origins of Municipal and County Hospitals in Public Health legislation, 1920.

National Health Service Act, 1946; unification of the hospital system.

5. HISTORICAL DEVELOPMENT OF THE PHARMACEUTICAL INDUSTRY IN GREAT BRITAIN

The trade in imported crude drugs in the nineteenth century.

The small-scale manufacture of inorganic chemicals and preparations of vegetable drugs by chemists and druggists; the growth of these undertakings.

The development of synthetic drugs and chemicals.

The increased demand for basic chemicals and the subsequent expansion of the industry.

The foundation and development of the pharmaceutical manufacturing companies.

6. GENERAL KNOWLEDGE OF THE HISTORICAL DEVELOPMENT OF PHARMACOPŒIAS IN GREAT BRITAIN

The pharmacopœias of London, Edinburgh and Dublin; British Pharmacopœia, 1864; the development of pharmacopœial standards and the effect on pharmaceutical practice of subsequent pharmacopœias; British Pharmaceutical Codex and the British National Formulary.

II. Pharmaceutical organisations and representative bodies

A general knowledge of the functions of the Pharmaceutical Society of Great Britain; National Pharmaceutical Union; Guild of Public Pharmacists; Association of British Pharmaceutical Industry; Scottish Pharmaceutical Federation; Chemists' Defence Association, Ltd.; Chemists' Mutual Insurance Co., Ltd.; Chemists' Sickness and Provident Society; Company Chemists' Association, Ltd.; and British Pharmaceutical Conference.

The Practice of Pharmacy

I. Legislation

1. A detailed knowledge of the following enactments and their subordinate legislation as specified:

Pharmacy and Poisons Act, 1933; the Poisons Rules, as currently amended; the Poisons List, as currently amended; Pharmacy and Medicines Act, 1941; Pharmacy Act, 1954.

Dangerous Drugs Act, 1951; the Dangerous Drugs Regulations 1953, as currently amended; D.D.A. Application and Relaxation Orders, as currently applied. Therapeutic Substances Act, 1956.

The substances to which Part I applies and the purpose and effect of the Regulations governing manufacture, sale and importation of those substances.

The substances to which Part II applies and Regulations governing use and supply, as currently amended.

2. The purpose and effect of the following statutes on the practice of pharmacy: Protection of Animals Act, 1911; Venereal Diseases Act, 1917; Cancer Act, 1939; Radioactive Substances Act, 1948; Veterinary Surgeons Act, 1948; Shops Act, 1950; Food and Drugs Act, 1955.

3. Legal requirements governing the sale, supply and use of methylated spirits, the sale and supply of spirits, wines and sweets and the sale and supply of abortifacients. Weights and Measures legislation.

II. Ethics, professional conduct

The difference between law and ethics; the adoption and acceptance by professions of codes of behaviour and ethical standards.

The Statement on Matters of Professional Conduct; its preamble; the reasons for and objects of the clauses in the Statement.

The Statutory Committee; its regulations; the relationship between the Council and the Statutory Committee; important decisions of the Committee.

The relationship between the pharmacist and the medical, dental and veterinary professions; the relationship between the pharmacist and the general public.

The position and responsibility of the pharmacist as director or superintendent of a corporate body.

III. Professional and general liabilities

1. LIABILITIES AND INSURANCES

Responsibility of the pharmacist for the accuracy of dispensed medicines.

Public liability and professional insurance.

Responsibility of the vendor for the suitability of goods supplied.

Insurable risks; premises, fire, theft or loss.

Third party insurances; protection of staff against accident.

2. ELEMENTARY CONTRACT LAW

An elementary knowledge of contract law confined to the meaning of a contract; contracts under deed; simple contracts; contracts by corporations; offer and acceptance; warranty.

IV. Stock Control

1. GENERAL. Ordering of stock; stock records and control.

2. STORAGE. General optimal storage conditions.

Causes of deterioration of pharmaceutical materials, dressings and general stock, and its prevention.

Poisons and Dangerous Drugs; storage to satisfy legal requirements; location and control of scheduled poisons; records.

Substances requiring special storage conditions:

(i) INFLAMMABLE STOCK: e.g., spirit, ether, medical gases; local authority fire regulations; fire extinguishers.

(ii) DANGEROUS SUBSTANCES: e.g., acids, caustic alkalies, ammonia, sodium, phosphorus; agricultural and horticultural chemicals.

V. Literature

Reference books and periodicals; medical literature; indices of new products.

VI. Presentation of dispensed medicines

1. GENERAL.

The traditional and contemporary forms of pharmaceutical elegance.

Containers and labels; packing and wrapping materials.

General survey of methods of packaging; foil and strip packing of tablets; metal and plastic containers; pressurised packs and aerosols; collapsible tubes; the packing of ampoules and their presentation as dispensed medicines.

2. (a) THE PRESENTATION OF EXTEMPORANEOUSLY PREPARED MEDICINES.

Packaging; labelling and wrapping of mixtures, tablets, powders, ointments, eye and ear drops, application and other preparations for internal and external use, supplied on prescription.

(b) THE PRESENTATION OF PROPRIETARY MEDICINES.

Factors affecting the method of presentation of prescribed proprietary medicines.

VII. Medical gases

(a) GENERAL

The production and distribution of compressed gases.

Types and sizes of cylinders and valves in use; testing of cylinders.

Gauges; regulator valves; reducing valves; flow-meters; flow-meter regulators; humidifiers; tents; carbon dioxide absorption apparatus.

Potentially dangerous nature of compressed gases; fire and explosion risks.

Safety precautions to be observed in the handling of storage of gases.

Identification of medical gas cylinders, colour code.

(b) THERAPEUTIC USE OF GASES

Impaired respiration, anoxaemia, respiratory failure.

Use of the following gases:

OXYGEN: Respiration; methods of administration and comparison of results obtainable by different methods.

Masks, catheters, portable equipment, tents, pipe line equipment.

Chemical and physical properties of

oxygen in relation to the choice and construction of apparatus, special precautions.

CARBON DIOXIDE: Medical uses, inhalation.

Mixtures of carbon dioxide and oxygen; carbon dioxide snow; its preparation and uses.

NITROUS OXIDE: As an anaesthetic; as an analgesic; administration with oxygen, with air; addiction risks.

Apparatus for the administration of mixtures of gases.

CYCLOPROPANE: Physical characters and use.

(c) INHALATION APPARATUS FOR USE WITH DRUGS

The production of aerosols with oxygen, with air.

VIII. The National Health Service

1. A general knowledge of the administrative structure of the National Health Service; at local level, Executive Council; at national level, Central National Health Service (Chemist Contractors) Committee. The corresponding structure in Scotland.

(a) GENERAL

(i) The provision of pharmaceutical services under the General Medical and Pharmaceutical Regulations, 1954; the General Medical and Pharmaceutical (Scotland) Regulations, 1955.

(ii) CONDITIONS RELATING TO THE SUPPLY OF DRUGS AND APPLIANCES BY CHEMISTS. Hours of service; notices to be exhibited; "out-of-hours" and rota services.

(iii) DISPENSING OF MEDICINES

The responsibility of the chemist contractor for the control of the dispensing of medicines by persons other than pharmacists; containers; methods of payment; revision of hours of service; test prescription procedure.

(iv) PRESCRIPTIONS

Prescription forms for general and specific purposes; bulk prescriptions; conditions under which amendments to prescriptions may be made; the sorting, recording and endorsement of N.H.S. prescriptions with special reference to broken bulk; nearest quantity.

Test prescription procedure.

(v) A general knowledge of the disciplinary machinery set up under the National Health Service Act, 1948, and the Regulations made under it. The duties of the Pharmaceutical Service Committee, Hours of Service Committee.

(b) THE DRUG TARIFF

A general knowledge of the arrangement and the contents of the Drug Tariff.

A general knowledge of the specifications and standards laid down in the appendices to the Drug Tariffs.

A knowledge of the prescribed reagents.

APPLIANCES: A knowledge of the list of prescribable appliances, their use, and special conditions governing their supply.

DRESSINGS: Sealed packs, non-specified quantities; weights.

CATHETERS, HYPODERMIC SYRINGES AND NEEDLES, PESSARIES, SYRINGES: Sizes; materials of manufacture.

COLOSTOMY, ILEOSTOMY AND SUPRAPUBIC APPARATUS; TRUSSES AND ELASTIC HOSIERY.

Items required to be kept in stock.

2. Structure of the Hospital Service

(a) ADMINISTRATION

The Ministry of Health; its executive and advisory functions; the delegation of responsibility to regional and local authority.

The administrative structure of the hospital service; the functions, duties and relationship of regional boards, boards of governors and hospital management committees; the corresponding structure in Scotland.

The structure and functions of the various advisory and co-ordinating committees in the hospital service, e.g., regional pharmaceutical advisory committees.

(b) HOSPITAL GROUP ORGANISATION

Boards of governors and hospital management committees—constitution and functions. Group officers—their function and duties.

A. General Practice of Pharmacy

1. THE ESTABLISHMENT

The layout of a pharmacy; the dispensary and stores; equipment; services; structure; heating, lighting, ventilation.

2. ADMINISTRATION OF A PHARMACY

B. Pharmaceutical Industry

1. GENERAL

Size and scope of the industry; specialisation by individual manufacturers; importance of research.

The structure of a pharmaceutical manufacturing company; directors and departmental heads; subdivision into technical, techno-commercial and commercial departments; their duties and responsibilities.

Company property; patents, trade-marks and copyright.

2. TECHNICAL

CHEMOTHERAPEUTIC RESEARCH; clinical trials; process development and improvement.

FORMULATION AND PACKAGE DESIGN: User trials; storage and transport hazards; stability tests; special requirements of tropical markets; pilot-scale manufacture.

PRODUCTION: The organisation of the factory; its technical and commercial departments; safety precautions.

QUALITY CONTROL: Development of analytical methods; specifications and standard methods; the design and administration of a routine testing laboratory; biological tests.

3. DISTRIBUTION

Medical products in the home and overseas markets; the effect of the National Health Service; methods of trading overseas; subsidiary companies, associated companies and agencies; restrictions imposed by overseas governments; foreign exchange, import duties and quotas; registration with health authorities.

Veterinary and agricultural products in the home and overseas markets; the scope and size of the market; the emphasis on preventive medicine in animals; the manufacture and sale of supplemented animal feedingstuffs; the influence on sales of Government controls and regulations (e.g., in the compulsory treatment of animal infestation and disease prevention, the dressing of crops and eradication of weeds, etc.).

Storage, dispatch and transport.

Technical information and service. Market surveys and sales statistics.

The compilation of technical literature. Inquiry departments. The duties of technical representatives in maintaining an exchange of information.

C. Hospital Pharmacy

1. THE HOSPITAL

Functions and responsibilities of secretary, medical superintendent and administrative officers.

The functions of the professional and technical staff.

The co-ordination of the pharmaceutical service with the other hospital services.

2. THE PHARMACEUTICAL DEPARTMENT

(a) STAFFING

Establishment; grading of staff; negotiating machinery.

(b) FUNCTION OF THE PHARMACEUTICAL DEPARTMENT

Supply of drugs, dressings, instruments and sundries to wards and departments;

dispensing for in-patients and out-patients—patients' record cards; the pharmacist's responsibilities in relation to the custody, storage and handling of drugs in the hospital; inspection of ward stocks; additional safeguards in mental hospitals.

3. MANUFACTURING IN HOSPITALS (INCLUDING THE PRODUCTION OF STERILE FLUIDS)

(This section includes only the special methods adopted, and apparatus used, in hospital pharmaceutical departments and which are not covered in the Pharmaceutical I and II sections of the syllabus).

Equipment; layout of laboratory; controls; production planning.

4. STERILISATION

STERILISATION OF SYRINGES AND NEEDLES

Equipment: hot air sterilisers, infra-red sterilisers.

Needle cleaning and sharpening procedures.

Bacteriological and other controls.

Syringe service; staffing and production planning.

STERILISATION OF SURGICAL DRESSINGS

Methods in general use.

Types of sterilisers, dressing drums, boxes and other packs.

Bacteriological, chemical and thermometric checks of sterilisation process.

Design and use of high vacuum sterilisers.

5. ADMINISTRATION OF THE PHARMACEUTICAL DEPARTMENT

ROYAL SOCIETY FOR PROMOTION OF HEALTH

Executive Council affairs among topics at congress

THE Royal Society for the Promotion of Health held its sixty-seventh congress at Torquay recently. The agenda covered the Society's own wide field, but provided an umbrella under which met conferences of five important groups connected with the health of the nation—the domiciliary nurses and midwives; health visitors; medical officers of health; municipal engineers, surveyors, architects and town planners; and public health inspectors. A novelty was the introduction of a section to discuss problems of the Executive Councils. The occasion was the first upon which the Councils had been given the opportunity of meeting under the aegis of the Society, and conversely the first upon which those who regularly attend the congress had been given an insight into problems of the Executive Councils.

The congress was opened by the Society's chairman (Dr. W. G. Senior). Then Lord Morrison of Lambeth, after being installed as its president, gave the 3,300 delegates his views on the National Health Service. As a member of the Government of the day, he said, he accepted responsibility for the Act as passed, but would have done a number of things differently, given his present knowledge. In particular he was dissatisfied with the organisation of the hospital services, for which he preferred local-authority administration, chiefly because of the ready accessibility of the town councillor to members of the public. [Though his audience was composed substantially of local authority representatives, those remarks did not appear to raise enthusiasm.]

Work of some of the Sections

EXECUTIVE COUNCIL SERVICES.—The president of the Executive Councils Association (Dr. Robert W. Rae), who opened a symposium under the section concerned with Executive Councils, described what such a Council was, how it was constituted, and what were its duties. MR. MCPHERSON (a consultant obstetrician), who followed, suggested that the majority of maternity beds in hospitals should be general-practitioner beds. In a comparison of general medical practice in Great Britain with its counterpart in Australia,

DR. IAN D. GRANT (immediate past-president, College of General Practitioners), ranked the National Health Service in this country third in comparison with the services in Australia and New Zealand, particularly as to remuneration of general practitioners. The theme of the symposium on Family Health and Welfare was how to make effective use of the knowledge and skill of the welfare worker. PROFESSOR ANDREW B. SEMPLE (University of Liverpool) gave a lucid synopsis of the problems of family welfare under the headings of finance, disease and emotions. Otherwise the impression given by the speakers was that the social workers were concerned principally with "empire building".

HEALTH EDUCATION.—A section under the chairmanship of DR. DORIS M. ODLUM dealt with the question of venereal disease in the teenager.

HOSPITALS.—The hospital section of the congress devoted its attention to the evolution of hospital psychiatric services. In the chair was the Deputy Chief Medical Officer, Ministry of Health (DR. G. E. GODBER), who emphasised that only by developing such services could the enormous total of hospital time devoted to mental disorder be reduced. The more that could be done for the mentally ill through the hospital service, he said, the less would be their stay in hospital. The fact that patients came and went freely had made the hospitals more acceptable as treatment centres. The fear and revulsion that had been part of the public attitude to mental illness for generations were being replaced by sympathy and understanding. Dr. Godber urged a better provision for the mentally confused aged person, stating that, of the 45,000 patients in mental hospitals perhaps 25 per cent. of those who were over sixty-five, could, on clinical grounds, be looked after elsewhere: only those requiring special treatment facilities in mental hospital should be sent there. In subsequent discussion the question of the place of the general practitioner in the mental health services came up, and PROFESSOR WOLFENDEN said that, in his opinion, the general practitioner would meet many difficulties in attempting to treat mental

health, the first and major difficulty being the size of the doctors' lists. Quite often two or more general practitioners were treating members of the same family. A consequence was that many patients would not take their psychiatric problems to the general practitioner. In a separate section of the congress given over to mental health, PROFESSOR G. R. HARGREAVES (Nuffield professor of psychiatry, Leeds) said the country had probably not yet realised how radical were the changes that would result from the Mental Health Act. Before the development of such treatments as insulin or electrotherapy, drugs such as the phenothiazine derivatives, and the more recently introduced antidepressive drugs, the psychiatrist had been relatively powerless to help patients with grave mental disorders. The psychiatrist could now aim to rehabilitate the majority of his patients for life in a community. Not so long ago the psychiatric patient had been solely the concern of the psychiatric hospital. He had become the concern of the health service as a whole and could be successfully treated and rehabilitated only by the service as a whole, including that provided by the family doctor. In the past there had often been antipathy between the general hospital, the psychiatric hospital and the family doctor. The family doctor had had the earliest opportunity to diagnose and treat psychiatric problems and after a patient's rehabilitation it was to the care of the family doctor he would return.

OCCUPATIONAL HEALTH.—A paper on "The Detection of Hazards to Health" was presented by DR. R. S. F. SCHILLING (London School of Hygiene and Tropical Medicine). Analyses of sickness absence had, he said, been helpful to employers but in medical research, had been of less value than expected, mainly because the statistics required expert handling. The techniques developed in occupational health research had been valuable to medicine as a whole, because the doctor in industry often had the time, the opportunity and the experience to practise preventive medicine "on a broad front." Sometimes more effectively than his colleagues in other branches of medicine.



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TELEGRAMS: "CHEMICUS" ESTRAND, LONDON"

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Learning the Business

SINCE the end of the 1914-18 war the period of academic training for the Pharmaceutical Society's diploma has gradually increased from one year to three years. Taking into account that the new course follows on the entrance examination or G.C.E. at advanced level, the course amounts in fact to four years. That increasing emphasis on academic work has been accompanied by a reduction in the demand for practical experience, formerly referred to as apprenticeship, and now covered by the term "practical training" extending over one year. Section K of the syllabus (for pharmaceuticals III) would seem to increase the bias towards systematic training in schools of pharmacy rather than the less certain method of acquiring knowledge, under varying conditions, in actual contact with pharmaceutical work. Viewed in that light the Council has followed a logical course, but there must be many who disagree fundamentally with the changes, and who are convinced that a period of one year's practical training cannot give a sufficient background to enable a newly qualified pharmacist properly to fulfil the functions of his profession. The incorporation of forensic pharmacy in section K raises the question of recognition of university graduates in pharmacy. Formerly the university graduate was required to take the Society's examination in forensic pharmacy before being admitted to the Register. Presumably the Society now exerts only remote control on the subject most intimately concerned with the responsibilities, rights and privileges of the pharmacist. Is it possible that something is going from the Society that will not be readily returned? Since 1948 many thousands of pharmacists have, without academic instruction, succeeded in satisfying the requirements of the National Health Service. Basic instruction in those requirements will no doubt be helpful, but in the long run self-interest will prove the best teacher in keeping abreast of what must be an ever-changing situation.

The introduction of some specialised knowledge of hospital practice is not without virtue. Hospital pharmacy and retail pharmacy seem destined to come closer together, and no young trainee can fail to benefit from a broadening of his outlook. The general practitioner of pharmacy should be adaptable and have confidence that a change from hospital to retail or *vice versa* is well within his scope. Study of the general organisation of the pharmaceutical industry, too, should help to bring home to the pharmacist an appreciation of the work done by others before he finally handles the various pro-

ducts found in his profession. Much of that subject has no doubt been covered in the past by teachers, even if it was not necessary for examination purposes. Some of the instruction could, with benefit, be given by non-professional teachers, taking advantage of specialist knowledge available from hospitals and manufacturers.

Taking a charitable view, it seems that the Council has made an honest attempt to overcome the deficiency in length of time allotted to practical training. The new syllabus is experimental and no doubt liable to be modified in the light of experience, even to the extent of including some of the material in a systematic course without necessarily insisting that a candidate should be examined on it. The Society has an enviable reputation for fairness in the conduct of its professional examinations. Has it now a problem in devising a system for the precise assessment of candidates' knowledge of Section K? That, and the possible effect of eventual loss of control by the Society over its own destinies, are questions for members to ponder most carefully.

Risks in Accepting Postal Orders

NEWS that forged £5 postal orders have been passed in London raises the question of legal risks taken by the retailer when he accepts any postal order. First, of course, the retailer who accepts a forged order loses his money, just as if it were a forged note, because the bank will not honour it. Any erasure or alteration may also result in refusal to pass for payment.

But it is sometimes forgotten by traders who regularly accept postal orders that even a genuine one, without erasures or alterations, can be a risk. The consideration has become specially important since higher-value orders have come into common use. The Post Office lays down that postal orders, unlike bank notes, do not represent value in themselves and are not negotiable. Only the rightful owner may cash a postal order and, if the sender has filled in the name of the payee, the owner may take legal action to recover the amount from any person who negotiates it. The point was tested in law as long ago as 1921, when a Balham clerk successfully sued a grocer at Lambeth court to recover 10s. The clerk had received a 10s. postal order made out to him but uncrossed. Later he missed it and told the local post office with a view to stopping it. Some months afterwards it was paid into the grocer's banking account and passed by the bank for payment. The clerk twice wrote to the grocer asking for payment and, receiving no reply, took him to court. For the plaintiff it was pointed out that the order was marked "not negotiable." The grocer said the postal order had come into his possession as a trader, and he did not know who had asked him to change it. It was a custom of the trade to take postal orders. The judge, in giving judgment, had uttered the memorable words: "Continue your custom if you like, but on the full understanding that you are acting contrary to the law and must make good the amount if it is discovered that the order has been lost or stolen." That decision stands.

A PHARMACY OF PONT STREET: The pharmacy of Bradley & Bourdas illustrated on p. 706 of THE CHEMIST AND DRUGGIST, June 11, was the pharmacy of Savory & Moore, Ltd., 6 Pont Street, over which the name Bradley & Bourdas still appears, and not, as incorrectly stated, the pharmacy at 43 Warwick Way, the proprietors of which are Bradley & Bourdas (Belgrave Road), Ltd. Apologies are offered to both companies for inconvenience caused.

"OPEN SHOP"

AN UNSCRIPTED COMMENTARY ON THE
SPECIAL PROBLEMS OF THE PHARMACIST
IN RETAIL PRACTICE

E. C. TENNER



THE facts of retail practice being what they are, each of us has already asked himself many times if the pattern of 1960 weather will be similar to that of 1959. What inestimable value there would be in a *reliable* weather forecast for the next four months! But "expert" forecasters might just as well keep quiet—their opinions broadcast to us, by various means several times daily do little more than destroy our own observational faculties. Weather changes continually surprise the experts.

It is now only rarely that one finds a fisherman or a countryman who will give his own forecast based on his wealth of understanding of local natural phenomena; my customers often seem unable to judge the weather overhead if they have not seen or heard some report in a newspaper or wireless programme which perhaps originated from many tens of miles away, yet they must often have proved those same reports quite irrelevant locally. Nowadays it is not so much the actual weather that makes a number one gambit in customer relations. The talk is all about the degree of accuracy of somebody else's forecast. But, whatever the weather has been, a deluge of skin tanning liquids descended upon us at Whitsun. Travellers and their tales are following each other around flogging *This-TAN* and *That-TAN*. Some of the lines are not yet in production, and I am shown "mock-up" samples. The prices range (at present) between 12s. 6d. and 25s.—for about 4 fl. oz., and seem to me as artificial as the colour which results after one or two applications of the liquid. Some brands say they are also shaving lotions, some claim to contain a protective filter agent as well as the "tanner." I, personally, got hot under the collar when I received a post parcel containing six expensive bottles of a brand I had not ordered or indeed ever heard of before. They were accompanied by a printed delivery note which did not bear mine or any other name. The National Pharmaceutical Union in its May 1957 Supplement advised members not to accept parcels of unordered goods and to insist that they be returned to the supplier at the supplier's expense. In my case the postman brought a post-bag full of parcels, tipped them on to a table, and left them. Only later did I find I had received in that delivery an unordered parcel. I do not feel myself in any way responsible for such goods. Certainly, before making any recommendation of any of those tanners I would like to be advised upon the possible results of their continual application to sensitive skins. Being toilet preparations, they are not affected by the section of the Pharmacy and Medicine Act that requires a disclosure of composition. It is suggested that the more frequent the application the deeper the resultant "tan"! Schedule 7 of the Poisons Rules includes certain hair-dyes, and it is not inconceivable that these skin-tanners may eventually have to join them. At any rate, both from the aspect of my customers' personal safety and from that of my own legal immunity, I would welcome some guidance from the Pharmaceutical Society or the National Pharmaceutical Union before advising my customers upon painting themselves all over with these new preparations. The ethics of this colour problem could involve a lot more than simple quick profits.

Another matter causing me to think at the moment is the spate of other manufacturers who are currently—and cunningly—endeavouring to exploit the teenagers' fear of pimples so as to attract from their pockets those large sums of spending money recently discovered in them. Quick profits are again associated with the sale of small quantities

advertised in the most glowing terms. The authoritative examination of all new medicinal or toilet preparations and of advertising claims by a responsible authority is, I believe, a "must" during the next few years for the protection of the public. Meanwhile I try and arouse the critical faculties of any among the advertisement addicts who will listen to me. It salves my conscience—at the expense, admittedly, of my pocket—but I feel it is my professional responsibility.

How to End a Farce

What a farce the Pharmaceutical Society's Branch Representatives' meetings are needlessly becoming! Months are spent preparing resolutions, which are discussed at length by the representatives, most of whom may be in ignorance of important relevant facts which, after much waste of time, are eventually disclosed by the president (if he feels confident to do so) or by our omniscient factotum Mr. Adams. The resolution falls or is carried. Months later the Council reports about a carried resolution. Incidentally it is possible to give near-verbatim reports in the pharmaceutical Press of those inconsequential discussions. Why not, therefore, verbatim reports of Council meetings? The farce has been thrown into high contrast this year because the Conference overwhelmingly rejected the Council's report on resolutions previously passed. That was a vote expressing lack of confidence in the Council and in any democratic organisation there would have been, as you pointed out in a leader, immediate resignations. Council Committee chairmen and other informed Council members should answer the points raised in debates, *not* the president who, as chairman of the meeting, ought to be impartial and to see fair play for all; and *not* the secretary who is present in an administrative capacity. Only if such proper democratic procedure is adopted will the Branch Representatives' meetings be a worth-while charge upon the Society's exchequer. And what a valuable means they would provide for delegates from all branches to get to recognise the capacities of individual Council members.

Pharmacists in Parliament

It was reported that, in a recent Parliamentary debate on old-age pensions, Dr. A. Glyn, M.P. for Clapham, suggested that every eligible old-age pensioner should be given a card to "enable him to go to the chemist and get his prescription without paying 1s. The money could be recouped from the Treasury." Dr. Glyn hoped the Minister would consider that suggestion. In the same debate, Mr. Freeth, the M.P. for Basingstoke, asked that the Minister should consider making more prominent the notice in chemists' shops about prescription charges. He said: "I feel that chemists are now rather tending to hide the notice, and that this means of helping to bring National Assistance to those who are on the borderline is kept rather out of sight." I did not see any report that Sir Hugh Linstead, or any other of the three pharmacists in the House, explained the great practical difficulties that an exempting card system could involve for the busy practising pharmacist trying to persuade the pricing office of the correct number of shillings he had not collected. I did not see that anyone spoke up for the integrity of all those of us who take exception to Mr. Freeth's reported offensive suggestion that we tend "to hide the notice." I should have thought that pharmacist members of Parliament ought to consider themselves, and act as, pharmacy's most responsible public-relations officers.

PROTOTYPE FOR FUTURE SHOPS

FALKIRK CO-OPERATIVE CHEMISTS' REDEVELOPMENT PROGRAMME

FALKIRK and District United Co-operative Society, Ltd., have started a programme of modernisation of their pharmacy premises in the town. An indication of the future pattern they intend following is provided in their Vicar Street branch which was opened late last year.

The two-story departmentalised unit replaces a smaller, less comprehensive shop, also in Vicar Street, that has now been closed. The new premises are bigger and have a far superior layout to the original. In addition to the inclusion of new departments, the Society have introduced some customer self-selection. If the present plan works out as anticipated, and already the results have been most encouraging, the new pattern is to be followed in other branches.

The main interest in the new shop is its layout and presentation. The two-windowed premises that were taken over by the Society were completely gutted and transformed on departmental lines. In planning the new branch, Mr. R. Gillies, M.P.S. (superintendent pharmacist) sought to create "visual impact" that would catch and hold the attention of potential customers, and then direct them to the sections in which they were interested. Visual impact has been gained by the clean bold frontage and, perhaps even more so, by the excellent "open-vision" windows. The windows allow some 2 ft. depth of displayed, glass-enclosed, stock, but dressing is carefully done to allow the fullest possible inspection of the interior. The pharmacy is well lit at night, particular importance being attached to the lighted canopy sign indicating the location of the dispensary at the left rear of the shopping area. All sections were sited according to a pre-designed scheme. On the right, immediately on entering, is a men's department devoted entirely to toilet and allied requirements. Although relatively small, the section is doing extremely well. Mr. Gillies purposely located it directly at the door, for easy, direct access by men shoppers and by putting it inside the window it has been given added impact from street level. Cosmetics for women have been given a larger separate area to the right rear, with sections of the

counter and wall-shelving, devoted to individual makers' merchandise. In effect, the cosmetics area, is a series of sections, one for each make.

The left side of the ground floor wall has been allocated to medicinals. An interesting point is that sanitary goods have



The central "island" on the ground floor on which customer self-selection has been introduced.

been purposely confined to the rear and to the final section of that wall. It was reasoned that the younger girl, beginning to buy such goods, might feel more confident and less conspicuous there than if obliged to shop at a more clearly observed point. The Society, again to avoid embarrassment, provides attractive bags for general use, and all sanitary goods are placed in them to eliminate any identification of packs.

Use of an "Island"

The remaining unit on the ground floor, which has been kept clear to allow maximum freedom of traffic and which is laid in easily-cleaned terrazzo, is a central "island," operating on open access lines, with glass risers containing fast-selling lines, all price-tagged. Two assistants are in the



At left, the baby and diabetic foods section with the dispensary glass screen seen on the right; at right, the men's requisites section is located immediately inside the right-hand window on entering.

"island," which has been designed to test customer-reaction to self-selection layout. The Society believe that self-service is not yet practicable in such a shop, but that some approach might be made to that system and some of its better aspects used.

To the left rear there is an open archway with entry to the dispensary and the baby and diabetic foods section. Again open display is used. At the end of that section is a

glass screen with a sliding panel, beyond which is the dispensary. Prescriptions are handed in through the panel opening.

On the first floor is one large hall, laid out in sections for toiletries and fancy goods. There are a baby shop (a lift operates for mothers with perambulators) and a suite of rooms for chiropody work and facilities for fitting surgical hosiery.

FIGURES IN THE PHARMACEUTICAL WORLD

AS many will have noted the jubilee of the Irish Drug Association celebrated earlier this year, coincided with the twenty-fifth anniversary of the Association's present general secretary, Mr. Brendan Smith. Any such organisation goes through in its first fifty years of existence a number of stages commencing with the first enthusiasm of the founders and being followed by a period of recruitment and next of consolidation. In the first stage it is often the founder members themselves who by the strength of their purpose carry the organisation through to a successful foundation.

The first secretary that the I.D.A. had, was employed professionally in that capacity and was not himself a pharmacist. The time came when it was necessary to whip up membership and Mr. Brendan Smith, a young pharmacist, was engaged to call upon pharmacists throughout the Republic and in the course of a number of years he reached the stage when he could boast that he knew every pharmacist in the country. Mr. Brendan Smith qualified in Dublin, his native city, in 1929, after an apprenticeship at Massey's Pharmacy, Ltd., Harcourt Street, Dublin. It was a four-year apprenticeship in which he gained a good grounding in every aspect of retail pharmacy in the capital city and on qualifying he went back for a period as qualified assistant. He left for a time to gain country experience in the city of Waterford and in other provincial towns, but then returned to Dublin to take a post in the retail side of the business of the late Mr. P. C. Cahill. He first joined the staff of the Irish Drug Association in 1934 and was closely linked with the development of the Association ever since. At that time it was, of course, known as the Dublin and Provincial Retail Drug Association and a recruitment campaign coincided with change of title to its present form. Mr. Brendan Smith travelled the country as organising secretary until 1947, using as his headquarters the offices of the professional secretary, Mr. R. J. Kidney, in Dublin. In 1947 on the retirement of Mr. Kidney he was appointed general secretary. The Association is now at a stage when a new form of development work is called for. To make the local organisation correspond with the Civil Service health administration the present local associations have been transformed into twenty-six county associations. Though that process is now completed, it does not mean the end of the journeyings of Mr. Smith because the Irish Drug Association keeps up strong social contacts with its local affiliates and during the winter season particularly there are periodical expeditions to provincial business and social events.



MR. BRENDAN SMITH

In Irish commercial life, Mr. Smith is currently one of the eight persons appointed to the Prices Advisory Panel by the Minister for Industry and Commerce to deal with price controls for different commodities, and he is also the honorary secretary of the Federation of Trades Associations.

Outside pharmacy, Mr. Brendan Smith's interests are chiefly sporting. His schooldays were spent under the Jesuits at Belvedere College and he played rugby football for the school and later as a member of the Bective Rangers. He has achieved some distinc-

tion in swimming and water polo but at the present time is mainly concerned to reduce his handicap at golf. He lives at Malahide on the north side of Dublin and is the father of six children (four girls and two boys).

Mr. Brendan Smith is a regular attendee at meetings of the British Pharmaceutical Conference and is consequently well known to many British pharmacists, quite apart from those who might be regarded as his opposite numbers in trade bodies in this country, with which, of course, the Irish Drug Association maintains close contacts.

PHARMACEUTICAL ASPECTS OF MIXING SOLIDS

Dr. Train's address to a meeting of the Pharmaceutical Society in London

ON May 26 Dr. David Train (lecturer in pharmaceuticals, University of London) addressed a large audience at an evening meeting of the Pharmaceutical Society on "Pharmaceutical Aspects of Mixing Solids." A shortened version of his address is here given.

A Factor in Accurate Dosage

An appreciable literature on the mixing of solids has been brought together in a review by Weidenbaum; in the main it is concerned with factors affecting the rate and mechanism of powder mixing. Comparatively few papers discuss the conditions of mixing required to attain a given specification. Pharmaceutically that aspect is important, for an accurate dose of a small quantity of a potent drug so often depends on how thoroughly it is dispersed through a bulk of other material.

The process of mixing of solids presupposes particulate form. As different particles have varying characteristics, both individually and collectively, the variations affect any mixing operation and must be taken into account. Before any mixing process begins an assemblage of particles takes the form of a static powder bed in which the constituents are in partial or total segregation and all are subject to gravity and in some spatial equilibrium with one another. No appreciable movement takes place whilst a randomly packed bed is in the condition it spontaneously takes up as formed. Any movement is by failure along a slip line, or in other words a shear movement, and it has long been established that, to obtain relative particulate movement within such a bed, the volume of the bed must be increased. Insufficient dilatation of the bed, either generally or locally, causes hindrance to particle movement. In its milder form that increases mixing time; under the worst conditions proper mixing is prevented from being achieved.

Assuming that particle movement is possible, the application of pure tensile or pure compressive forces only increases or decreases the specific volume of the system without causing the particles to change positions relative to one another. The shear forces necessary to produce relative movement must be applied by some external means, so as to act within the bed both generally and locally. To ensure rapid and economic mixing, the greatest possible number of slips per unit time should be produced in all directions. If adjacent slip planes are produced so that they are not more than one particle apart, then there will be movement between all particles. The forces should be given time to make it probable that every particle may visit or pass through every point within the confines of the system in the expanded state. To induce movement in all three planes an adequate three-dimensional stress system producing random or turbulent movement is essential. Initially the rate of dispersion of an ingredient may be rapid, but a

truly random condition to give an ideal mixture may never be achieved. Any mixing operation will have a characteristic relationship between the degree of mixing, M , achieved after time, t , of the general form:—

$$M = A(1 - \exp.(-kt))$$

where the constants A and k depend on the geometry of the mixer, its method of use, and the physical characteristics and proportions of the materials mixed.

When the mixing operation is considered complete, movement of the particles should cease so that the system can take up a state of static equilibrium without segregation occurring in handling, storage and manipulation.

Analysing the operation as a series of steps shows four well defined principles to be observed: expansion of the bed, application of an adequate shear force system acting in three dimensions; sufficient processing to allow a truly random condition to be achieved; and prevention of segregation when the mixing operation ceases. That simple picture may be complicated by secondary effects caused by properties peculiar to a specific particulate system, but inefficient mixing procedures and poor resultant mixtures are often due to the violation, to a lesser or greater extent, of one or more of those four principles.

Properties Affecting Mixing

Properties associated with powders may adversely affect the mixing process. Surface-active forces operating on the particles may be caused by surface tension due to adsorbed liquid films, electrostatic charges, etc. Acting on the surface of the particle, their effect becomes greater as the specific surface area of the solid increases (that is, as the absolute particle size becomes smaller), producing powders with high angles of repose and poor flow. Those forces cause groups of particles to be held together as aggregates that are difficult to disperse evenly through other components.

If samples of coarse and fine particles of the same material are subjected to certain mixing conditions, no mixing occurs if the coarse material is placed on top; if the fine material is on top, mixing takes place for a period, but segregation develops as the fine particles fall to the bottom. Vibration or bumping during storage or transport tends to upset the interparticulate equilibrium of the bed so that, after a time, there is a greater concentration of fine particles at the bottom of the container.

Thirdly the rate of mixing is impeded, and partial segregation can develop, when two components have appreciable density differences, even with identical particle size, a larger downward force due to gravity is acting on the denser particle.

The effects of particle shape have not been investigated extensively but it is well known that roughly equidimensional particles mix more readily than

those of other shape. The addition of flat or acicular particles prolongs mixing time because of the tendency to "bundle," often demanding vigorous treatment to break up the resultant assemblages. Fine material, too, falls easily through the voids between the shaped particles, thus allowing segregation. Preliminary milling to produce particles of the same order of size as other constituents of the mix is probably the best practical method of dealing with the problem.

The properties of particles thus affect a mixing process in two ways. Surface-active forces hinder mixing and prolong the operation but, once the particles have been randomised, there is little or no tendency to separate as constituents. Differences in size, density or shape, however, introduce an element of segregation that detracts from the efficiency of a mixing operation, thereby increasing the time required to produce a satisfactory mix, and also causing a mixed powder to separate.

Mixing Equipment

A simple cylindrical drum revolving about its axis has poor mixing ability because most of the individual particulate movement within it is in one plane only, no shear forces being introduced along the axis. Various mechanical devices have been introduced from time to time to overcome that weakness. Helical flights were probably the first modification. In recent years rotating the drum with its axis at an angle to the horizontal, or on an axis that is at an angle to an axis of symmetry, and to the direction of gravity, has been used successfully on a commercial scale. In that category may be placed the rotating cube mixer. In the Z-blade and planet mixers movement is induced by impellers, the container remaining stationary; the skew movement induced on the particles as they fall under the influence of gravity enhances the mixing quality of the system. If density differences have to be accommodated, mixers producing a periodic abrupt reversal of flow of the powder, such as the double, V-, or Y-cone mixers with baffles are the equipment of choice. In the types of plant mentioned, the intensity of shear between particles is mild. To help the break-up of the compound aggregates into primary particles shear forces in mixing are especially important. The plant used for the purpose, however, reduces in size by mechanical breakage at least a proportion of the particles. That is often anticipated, ingredients initially oversize being fed in correct proportions into the plant and reduced and partly mixed in one operation. Though size-reduction machinery is used for mixing, such plant is not necessarily good mixing apparatus.

Muller-type reducers, as exemplified by pestle and mortar, end or edge-runner mills, or the buhr-stone mill, produce a shearing action between two surfaces moving parallel to the plane

of contact. Only a small portion of the material is being processed at any one time, and general mixing is slow. With size-reducing plant based on impact principles, such as the pin disc, hammer and fluid-energy mills, intense shear forces on a local scale separate aggregates to primary particles, and turbulent air currents ensure mixing of any particles that happen to be in plant at the time. However, the hold-up capacity of such machines is usually low and mixing must be done by other means.

Sieving and sifting techniques have often been recommended as aids to mixing, on the basis that a sieve helps to break up an aggregate or a concentration of an ingredient into primary particles or, alternatively, that the meshes act as simple proportioning devices and redistribute the material as it passes through the sieve. The second premise is probably correct and the procedure is useful when the size of the holes is large compared with the dimensions of the particles. The basis for breaking down aggregates is not so well founded, because a mesh size must be selected that is only a little larger than the large particles. Since, on a probability basis, the smaller particles will tend to pass through first, there will always be a segregation by particle sizes during the process, thus defeating the object of the mixing operation.

Requirements in Mixing

If a mixture of powders is to be administered medicinally either loose or in a product such as a tablet, the dose of the active ingredient is subject to the random variations associated with taking repeated units of a given number of particles from an infinite random population. Because randomisation is a time-dependent process, almost all mixtures have in practice some segregation tendency, especially as there will be a range of particle sizes for each ingredient. By increasing the number of particles per dose it is possible to approach a mixing condition in which limits set by three times the standard deviation would include over 99 per cent. of the doses of the batch. The size of particle depends on total weight of dose product, density, and number of particles. When a powder is to be used as the basis for a medicine, the actual content of a specific single dose must be criterion for control.

The scale of scrutiny of a foot powder or a dusting powder is the amount of an average application. For an internal medicine it is the dose unit or preferably the normal minimum dose. The scale of scrutiny or dose sets the sample size. It may also provide a coefficient to represent a satisfactory pharmaceutical mix, which may be defined as follows:—Coefficient of Pharmaceutical Mixing, M_p =

Number of doses within the
specification

Total number of doses in the batch

Some segregation takes place when a mixed powder is placed in storage bins and also during storage. By remixing the powder before weighing it into, say, 1-kilo packages, a manufacturer maintains the specification. But for a specific

1-kilo unit there are (a) some segregation within the container during filling and (b) a progressive deterioration during transit and general handling. If the powder is dispensed in the state in which it is received in the hospital or shop, the content of the prescription may not meet the required specification, and individual doses for the patient may have quite a wide variation. The question arises whether a test prescription officer should request the supplier to remix a powder before dividing it into three for analytical purposes. "Personally I think he should."

Surface-active forces are a function of surface area, their influence increasing as the particle size is reduced, producing powders with high angles of repose and poor flow. The addition of small amounts of certain materials in fine powder as "conditioners" has received some attention of recent years. The fine particles are adsorbed on to the surface of the larger particles, preventing adhesive contact between adjacent surfaces, reducing friction, and allowing flow to take place. For best effects the amount of additive is critical, because if excess is present it cannot be accommodated on the adsorbing surfaces, and the flow characteristics of the mixture again deteriorate. Adding coarse material to a sticky powder to give the resultant mixture certain flow characteristics is a procedure that should be critically examined before adopting it for mixing pharmaceutical powders. For example, there is no evidence that all the aggregates of the fine powder are broken up when sufficient coarse material has been added to make the mixture flow. Compound particles may still exist.

Granulation

Granulation is generally accepted as the normal technique for modifying materials to give a free-flowing condition. If the active ingredients for a formulation are to be incorporated in the solid particulate form, then the initial mixing of the dry powders, before any binder is added or slugging is done, sets the quality of randomness of the mix. The resultant granule contains only a fraction of those particles forming the dose unit and, even under ideal conditions, therefore, the variation in content of active ingredient between individual granules will be large. If the initial mixing is poor the proportion of granules with extremes of concentration will be high, producing dose products with undesirable variations in content. The main method adopted to counter uneven concentrations of active principles in solid mixtures is based on solution, the active materials being dissolved in a suitable solvent and dispersed in essentially a molecular condition over the surface of the other ingredients so as to obtain an even distribution throughout the moistened material. That is the safest—and probably the only satisfactory—way of effecting an even dispersion provided three factors are taken into account. First, granules may be dried under conditions that cause migration of the solvent molecules to a specific surface for evaporation. Solute molecules of active ingredients may also migrate and are then left in the granules at that surface, giving a

small proportion of granules with a high concentration of ingredient whilst the rest of the mass is starved of it. Subsequent mixing is unlikely to restore the even distribution required. Secondly, if a true adsorption mechanism is operating, the proportion of solute adsorbed by weight will be inversely proportional to the size of the adsorbing particle. Subsequent segregation of fine particles of adsorbent would result in a preferential concentration of the active principle in that fraction. Thirdly, if a decision is made to make concentrated granules, say ten times the required strength, and to mix them subsequently with granules of inert material, the secondary mixing operation is subject to all the problems that any other powder mixture containing 10 per cent. of active principle would present in order to comply with specified limits.

A possible weakness in the methods of standardisation of certain tablets concerns those formulations in which the ingredient is less than half the gross weight of the final product, and is added either as a solid or as a batch of concentrated granules which are blended with other granular material. "In the light of the reasoning I have presented here this evening, I am reluctantly forced to the conclusion that though, in each case, the requirements of the official specification may have been met under the conditions of the assay, the possible variation of ingredient content between individual tablets can be over twice the official assay limits in a few cases, could be over four times the official assay limits in most cases, and might be eight times or more with one or two formulations." That possibility has been developed from theoretical grounds, but independent support for it was supplied by Professor Wilson in the symposium at the Bournemouth meeting of the British Pharmaceutical Conference in 1959. He reported that variations in the expected pharmacological response from hyoscine tablets could not always be explained by the variation in reaction of the patient.

Almost all tablet assays require a minimum of twenty tablets to be used, and for individual doses that is equivalent to widening the allowable limits given in the assay by a factor of times four.

When the analytical sample rises above, say, fifty dose units, the course of treatment must be long before it can be safely assumed that the patient has taken a mean dose consistent with the mean control as shown by the analysis. When medication depends on the effect produced by only one or two dose units, it is reasonable to assume that sufficient attention has been paid to establishing the limits of individual dose units. It should be a matter of professional pride that that is done.

Discussion

MR. D. STEPHENSON, Dartford, congratulated Dr. Train on his "most thoughtful, instructive and thought-provoking" address. After having given an excellent short summary of recent researches on the mixing of powders, Dr. Train, had applied statistical methods, he said, to examine the importance of particle size and shape in

the preparation of solid-dose forms, and had been driven to conclude that there was a weakness in pharmacopoeial standards for certain tablets. "He says in effect that our standards for weight of drug, and for uniformity of weight, are not enough, and that we need in addition some form of standard for uniformity of dose. So far as I know no pharmacopoeia in the world has such a standard. The reason may be a widespread belief that they are not necessary or it may be connected with the difficulty and expense in most cases of carrying out reliable assays on a large random sample of unit doses." Of about 120 tablet monographs in the B.P., 1958, more than a third referred to tablets whose drug content exceeded 80 per cent. of the total weight. Mr. Stephenson thought that it could be reasonably said that no standards for uniformity of dose should be required for those. Almost another third of the tablets described contained between 50 and 80 per cent. by weight of active ingredient. Ingredients in 100-mesh powder would have particles whose dimensions were not more than 150 microns. If all those particles were spheres 150 microns in diameter with the density of lactose, then a tablet weighing 100 mgm. would contain 40,000 particles, and in a 50:50 uniform mixture individual tablets could be expected to have a variation of only about ± 4 per cent. from the mean. In actual fact, in any 100-mesh powder there would be a large proportion of particles with dimensions much less than 150 microns. "I would expect that the total number in 100 mgm. would generally be around 100,000 which, in a random mixture, would ensure variations within ± 1 per cent."

Where Uniformity Could be Shown

Ascorbic acid tablets provided a ready means of testing for uniformity by merely dissolving each tablet and titrating against standard iodine. Some tablets containing 50 mgm. ascorbic acid, and weighing 200 mgm., made in 1958 from 100 mesh powder, had given readings which, when corrected for weight variation, varied by only $2\frac{1}{2}$ per cent. ($\pm 1\frac{1}{4}$ per cent.) in a total of fifty titrations. "I think the reason for that almost theoretical uniformity in a routine production batch of material is due to the action of the granulating solution in promoting uniformity of mix. The process of incorporating the solution promotes mixing. When, in addition, the granulating liquid has a solvent action on the drug, its distribution is still further increased. I think Dr. Train has not made sufficient allowance for that factor."

There remained something fewer than a third of the number of B.P. tablets to be mentioned. In those the dose of medicament was small—as little in some cases as 0.25 mgm. In the case of the hormone tablets the drug could be dissolved in alcohol and distributed over the fine particles of the diluent and the mixture granulated with an aqueous solvent. In that range of dilution the difficulty of checking the uniformity achieved was to find a reliable method of assaying $\frac{1}{4}$ mgm. of drug. In January, said Mr. Stephenson, one of his colleagues¹ had used a spectrophotometric

method which they had concluded would determine digoxin 0.25 mgm. in tablets to an error of about 5 per cent. He had examined a total of twenty-eight tablets made by two different companies, and the relative standard deviation for all the assays, corrected for weight variation, had been 6.3 per cent. Some tablets that had been made to contain only 0.0625 mgm. per product had by the same technique as they had used before, given a relative standard deviation of 5.2 per cent. about the mean. That result suggested that their methods of mixing were more reliable than their methods of assay. "I hope I have said enough to persuade Dr. Train that, by following recognised good pharmaceutical practice, we need not make a general statement that B.P. tablets may vary by as much as ± 40 per cent. of the stated dose," concluded Mr. Stephenson.

Specification at Fault

Replying to Mr. Stephenson, Dr. Train said "I am not 'doing battle' with the mixing but with the specification. The reason I brought this up is that the 'winds of change' are going through the tableting world and some new techniques are coming in such as means of improving dry slugging." If everyone adopted the means which Mr. Stephenson had used to make sure his hormone was evenly distributed they would produce what was essentially a fine dilution, which would be remixed and granulated. Mr. Stephenson was taking every care to produce an even mixture, but his method was time-consuming. It took personnel, careful handling and careful control. There was a tendency for manufacturers to go over to dry mixing, when there arose the problem he had discussed. "If you go over to that system, the patients are going to suffer because the specifications in the B.P. for about twenty tablets allow a tolerance of ± 40 per cent." There was nothing to preclude the manufacturer going over to that system to cut down cost, but the specifications in the B.P. did not cater for that potential situation.

MR. ALLEN, Manchester, stressed the importance of sample size, the number of samples to be taken, and their distribution throughout the batch mix.

"Since our efficiency of mix depends largely on the sample technique, we are faced with the difficulty of deciding beforehand what is going to be accepted as a good mix in a particular mixture." One was constantly faced with those problems. He did not think Dr. Train had sufficiently stressed that a bad mix would also result if a mixer was not full enough.

DR. TRAIN said that he recognised there was a problem in sampling. But, as Mr. Stephenson had emphasised, the problem was that there were no data with which to compare findings. There was a need for research on the statistics of mixing.

DR. L. SAUNDERS, London, said that Dr. Train's interesting paper led him to believe there were possibilities for a new branch of statistics: "the probabilities of the patient getting the right dose!" Large variations appeared to be possible.

DR. G. E. FOSTER, Dartford, said that he had carried out analyses on the macro scale using samples of 0.1–0.5 gm., and on the micro scale using samples of up to 5 mgm. On the macro scale all analyses appeared all right, but on the micro scale they showed "the most alarming differences." DR. TRAIN said he had been hoping someone would illustrate his point that "when you have a large dosage you have good results, but when you have a small dosage you get big differences." That was exactly what Dr. Foster had done!

DR. A. GLENN, Woking, said that a paper of the sort presented by Dr. Train pointed the way that experiments should go. "We must link our theoretical arguments with the experimental data before we get the answer to the problem. A large number of experiments need to be carried out. The problem of setting up limits for contents of active constituents in various preparations is one still being considered, though on a very *ad hoc* basis." If experimental results did not agree with the theoretical results, "then usually you are on, or very close, to something interesting."

MR. C. W. MAPLETHORPE (chairman of the Society's Education Committee), who presided, commented that it appeared that the meeting, the last in the series, had a record attendance.

MANUFACTURERS' ACTIVITIES

Overseas Directors in London.—Cyclax, Ltd., 65 South Molton Street, London, W.1, recently held a party in London at which, for the first time in the company's history, the managing directors of the various overseas associates were brought together. They came from Australia, New Zealand, America, South Africa and several European countries. The company was founded in 1897 by Mrs. Francis Forsythe, under the name of Mrs. Francis Hemming; it was conducted from 58 South Molton Street, London, W.1, in premises still used today as retail salon and training school. At that time the products were manufactured on the premises and purveyed to a "most anonymous" *clientele* that included several reigning Queens. When

the son of the founder and present chairman (Mr. G. H. Forsythe, sen.) entered the business it had become fashionable to visit a beauty salon and to talk about it to one's friends. Nevertheless, he set to work to expand the business both at home and overseas.

At British Exhibition in U.S.A.—Lincoln Chemicals, Ltd., 55 Strafford Road, London, W.3, announce that their products Linc-o-lin hand cream, shampoo and hair treatment are on display at the British Exhibition, New York, U.S.A., June 10–26. The stand is being run in conjunction with the company's American agents, Paul-Sam Importing Co., Inc., Boston. Only one other company in the field of toilet preparations is understood to be exhibiting.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, JUNE 15: The markets being still in the doldrums, prices were difficult to establish for some commodities during the week.

It was obvious that little business was being transacted in Cape ALOES and prices have begun to sag. The B.P. TOLU BALSAM was also being quoted lower in some quarters. Some buying resistance to the higher prices asked for GUM ACACIA in the forward position resulted in a 3s. per cwt. reduction. While African GINGER was weaker in both positions, the Jamaican variety was dearer at origin as stocks are reduced. QUILLAIA is now scarce on the spot and upwards of 130s. per cwt. is asked for the whole bark, against 110s. recently. ELEMI is also short with none offering at origin. Among AROMATIC SEEDS Dutch CARAWAY was up 10s. per cwt., while Chinese FENNEL has been sold as low as 85s., duty paid, against 105s. quoted in the previous week. WAXES from Brazil continued to ease.

There were few changes in the ESSENTIAL OIL market but LEMON-GRASS reversed its recent weak trend and SANDALWOOD was firm at advanced levels.

One large manufacturer of ACETIC ACID announced plans for building a new production plant to make the acid by a new process.

The Government has imposed a Customs duty of £19 per ton on SODIUM CHLORATE originating in the Soviet zone of Germany to offset the dumping of the chemical in the United Kingdom.

Pharmaceutical Chemicals

ADRENALINE. — (Per gm.). Synthetic B.P. 1-kilo lots, 11d.; 500 gm., 1s. 1d. ACID TARTRATE, B.P., 1 kilo, 7½d.; 500 gm., 9d.

AMIDOPYRIN. — Minimum rate, 20s. 1d. per lb. with usual differentials for smalls.

p-AMINOSALICYLIC ACID. — SODIUM, 20s. per kilo for 1,000-kilo lots.

AMMONIUM ACETATE. — 1-cwt. lots of B.P.C. 1949, 4s. 5d. per lb.

AMMONIUM BICARBONATE. — B.P. powder, £50 5s. per ton; CARBONATE, £81 10s. for lump and £85 10s. for powder.

AMMONIUM CHLORIDE. — One-cwt. lots B.P. powder, 105s. per cwt.; technical, 42s. 6d.

AMPHETAMINE. — One to 10-kilo lots: BASE, from 140s. to 160s.; SULPHATE, 110s. to 130s. and d-AMPHETAMINE SULPHATE, 405s. to 420s.

AMYLOBARBITONE. — B.P.C. is 82s. 6d. per kilo for less than 25-kilo lots and SODIUM, B.P.C., 92s. 6d. per kilo.

BARBITONE. — Less than 25-kilo lots, 53s. 6d. per kilo. SODIUM derivative, 56s. 9d. per kilo.

BUTOBARBITONE. — B.P.C., 87s. 6d. per kilo in less than 25-kilo lots.

CALCIUM CARBONATE. — B.P. light precipitated powder, 1-ton lots, £33 per ton in free bags, ex works.

CALCIUM CHLORIDE. — B.P.C. fused, granulated, 10½d. per lb. in 1-cwt. lots.

CALCIUM GLUCONATE. — Three-cwt. and upwards, 3s. 6d. per lb.; 1-2 cwt., 3s. 7d.

CALCIUM SUCCINATE. — 10s. 6d. to 12s. per lb., as to quantity. SUCCINIC ACID is from 10s. 6d. to 12s. 3d. per lb.

CARMINE. — 70s. per lb. for 1-cwt. lots.

CHALK. — Prepared powder B.P., £22 per ton for minimum 1-ton ex works.

CHINIOFON. — B.P. 1948, 67s. per kilo; 50-kilo lots, 62s. 6d. per kilo. The sodium derivative (B.P. 1953), 99s. 4d. and 92s. 9d. for the same quantities.

CHLOROCRESOL. — Pharmaceutical quality, 7s. 2d. per lb. (1-cwt. lots).

CINCHOPHEN. — One-cwt. lots 21s. per lb.

CITRATES. — Per lb.:

	1 cwt.	5 cwt.
SODIUM†	s. d.	s. d.
POTASSIUM†	2 8½	2 7½
IRON AND AMMONIUM*	2 11½	2 10
	3 7½	3 6

† Powder 3d. per lb. more. * Scales 10d. per lb. more.

CITRIC ACID. — Domestic material (in kegs) per cwt. 1-4 cwt. lots, 220s. per cwt. 5-cwt., 216s. In paper bags, 5-cwt. lots are 208s.

COCAINE. — 16-oz. lots, HYDROCHLORIDE, 91s. 6d. per oz.; ALKALOID, 101s. per oz. Subject to D.D.A. Regulations.

CORTISONE. — One-kilo lots, ACETATE, 10s. 6d. per gm. HYDROCORTISONE, ACETATE OF ALCOHOL, 11s. per gm.

CREOSOTE. — B.P. quality, ex beechwood, from 6s. 9d. to 7s. 6d. per lb.

CYCLOBARBITONE. — Less than 25 kilos: B.P.C., 73s. per kilo. CALCIUM, 85s.

DIPHENAN. — (Per lb.). 55s. 3d. (56-lb.) to 63s. (1-lb.).

EMETINE. — One-kilo lots, HYDROCHLORIDE, 8,642s. per kilo.

FORMALDEHYDE. — B.P. solution, 5 drum lots, 60s. per cwt.

GALLIC ACID. — B.P., 10s. 7d. per lb. for 1-cwt. lots. Technical grade, 9s. 9d.

GLYCEROPHOSPHATES. — Per lb. in 1-cwt. lots: — ACID, B.P.C., 20 per cent., 4s. 7d.; CALCIUM, soluble, B.P.C., 12s.; IRON, B.P.C., scale, 15s. 9d. and powder, 14s. 9d.; MAGNESIUM, soluble B.P.C., 14s. 3d.; MANGANESE, B.P.C., 27s.; POTASSIUM, 50 per cent., B.P.C., 3s. 9d. and 75 per cent., B.P.C., 5s. 6d.; SODIUM, 50 per cent., 2s. 7d.; 75 per cent., 4s. 6d.; 100 per cent., 8s.

GUAIACOLS. — LIQUID B.P.C., 16s. per lb. for 1-cwt. lots; CRYSTALS, 15s. 9d.; CARBONATE, 18s.

HEXAMINE. — B.P., 1s. 11½d. per lb. for 1-ton lots, delivered in 1-cwt. kegs. Technical is threepence per lb. less.

HEXOBARBITONE. — 25-kilo lots or over, 115s. per kilo.

IODOFORM. — Powder, 22s. 4d. per lb. in 28-lb. lots; 21s. 8d. in 1-cwt. and 21s. 1d. in 5-cwt. lots. Crystals are 3s. per lb. more than the powder.

IRON SALTS. — GLUCONATE, B.P.C., 6s. 3d. per lb. in 1-cwt. lots; SULPHATE, B.P. crystals, 9½d. per lb. in 28-lb. lots; 57s. 6d. per cwt., 5-cwt., 52s. 6d. per cwt.; SULPHATE EXSICCATED, 1s. 5d. per lb. for 28-lb., 1-cwt. 123s.; 5-cwt., 113s. per cwt., 1-cwt. fibre kegs free. Other packages extra. PHOSPHATE, B.P.C., 28-lb., 3s. 6d. per lb.; 1-cwt., 3s. 3d. PHOSPHATE, SACCHARATED, B.P.C., 28-lb. lots are 3s. 9d. per lb.; 1-cwt. 3s. 6d. OXIDE RED PRECIPITATED, B.P.C., 1949, 1-cwt. 2s. 1d. per lb.; CARBONATE, SACCHARATED, B.P.C., 1949, 28-lb., 3s. 3d.; 1-cwt., 3s. AMMONIUM CITRATE, scales, 3s. 6d. per lb. (5-cwt. lots). AMMONIUM SULPHATE, 1-cwt., 1s. 10d. per lb. QUININE CITRATE, 2s. 1d. per oz. in 100-oz. tin.

MAGNESIUM CARBONATE. — Per cwt., LIGHT, 129s. or 121s. for 1-ton lots; HEAVY, 170s. for 1-cwt. lots; from 130s. to 135s. for 1-ton lots.

MAGNESIUM CHLORIDE. — One-cwt. 1s. 10d. per lb.; 5-cwt., 1s. 7d.

MAGNESIUM HYDROXIDE. — B.P.C., 1-cwt. lots, 3s. 7d. per lb.; 1-ton, 3s. 2d. per lb.

MAGNESIUM OXIDE, B.P. — LIGHT, 1-cwt. lots, 3s. 2d. per lb.; HEAVY, 5s. 10d. per lb.

MAGNESIUM PEROXIDE. — B.P.C. (15 per cent.), 3s. 11d. per lb. (1-cwt.).

MAGNESIUM SULPHATE. — B.P. in minimum 1-ton lots varies between £18 and £21 per ton according to size of crystal and manufacturer. Exsiccated, £42 per ton. All ex works.

MAGNESIUM TRISILICATE. — (Per lb.). In 28-lb. packages: — 28-lb., 4s. 9½d.; 1-cwt. 3s. 10d.; 5-cwt., 3s. 7d.; 1-ton, 3s. 1d.

METHADONE. — Subject to D.D.A. 16s. 3d. per 5 gm. pack.

METHYL SALICYLATE. — Five-ton lots, 3s. per lb.; 1-ton, 3s. 0½d.; 1-cwt., 3s. 1d.; 5-cwt., 3s. 2d.; 1-cwt., 3s. 3d.

OPIATES. — Home trade prices (per oz.) subject to D.D.A. Regulations: —

	35 oz. and over	Under 35 oz.
	s. d.	s. d.
CODEINE		
PHOSPHATE ..	41 0	42 0
HYDROCHLORIDE ..	47 3	48 3
SULPHATE ..	47 3	48 3
ALKALOID ..	54 0	55 0
MORPHINE		
ACETATE ..	50 0	51 0
HYDROCHLORIDE ..	50 0	51 0
SULPHATE ..	50 0	51 0
TARTRATE ..	60 0	61 0
ALKALOID ..	61 3	62 3
ETHYL MORPHINE		
HYDROCHLORIDE ..	54 0	55 0
ALKALOID ..	63 3	64 3
DIAMORPHINE		
HYDROCHLORIDE ..	54 9	55 9
ALKALOID ..	59 9	60 9

PENTOBARBITONE. — Under 25-kilo lots, 125s. per kilo; SODIUM, 130s.

PETHIDINE HYDROCHLORIDE. — Subject to D.D.A. Regulations, 229s. 2d. per 250 gm.

PHENAZONE. — Imported, 9s. 6d. per lb.

PHENOBARBITONE. — Spot rate 50-kilo lots, 47s. 6d. per kilo; 5-kilos, 50s. 6d.; 500-gm., 54s. 6d. SODIUM SALT unchanged at 55s. 6d. per kilo for 5-kilo lots.

PHENOLPHTHALEIN. — One-cwt. 9s. per lb.

PHENYTOIN SODIUM. — One-cwt. lots 23s. per lb.; less than 56-lb., 25s.

PHYSOSTIGMINE. — Per gm.: ALKALOID, 14s. 8d. (5-gm. lots); SALICYLATE, 10s. and SULPHATE, 12s. 7d. (25-gm. lots); NITRATE, 1s. 1½d. (500-gm.).

PILOCARPINE. — In 2-kilo lots prices are: HYDROCHLORIDE, 1,013s. per kilo; NITRATE, 825s.

PIPERAZINE. — (50-kilo lots), ADIPATE, 26s. per kilo; CITRATE, 25s.; HEXAHYDRATE, 24s. and PHOSPHATE, 30s.

SULPHACETAMIDE. — One-cwt. lots, 24s. 6d. per lb. SODIUM derivative, 30s.

SULPHAGUANIDINE. — One-cwt. lots, 11s. per lb.

SULPHANILAMIDE. — One-cwt. lots, 6s. per lb.

SULPHAPYRIDINE. — Five-kilo lots, 120s. per kilo.

SULPHATHIAZOLE. — One-cwt. lots, 16s. 9d. per lb.

TARTARIC ACID. — 10-cwt. lots, 300s. per cwt.; 5-9 cwt., 302s.; 2-4 cwt., 304s.; 1-cwt., 305s.

Crude Drugs

ACONITE. — Spot: Spanish *napellus*, 2s. 6d. per lb.

AGAR. — Kobe No. 1, 13s. 6d. per lb. in bond; shipment, 13s. 6d., c.i.f.

ALOES. — Cape primes, spot, 200s. per cwt. quoted; shipment, 190s., c.i.f., nominal. Curaçao, 500s. spot.

BALSAMS. — Per lb.: — CANADA: Spot, 22s. for paper-filtered. COPAIBA: Para scarce on the spot, small lots at 7s. 9d., duty paid. PERU: Spot, 9s. 9d. in bond. TOLU (genuine as imported): small parcel on spot at 24s. per lb.; B.P., 13s. 9d.

BELLADONNA. — LEAVES (t.a. 0.6 per cent.), 2s. 9d. per lb. Dutch for shipment, 2s., c.i.f. Root cleared on the spot.

BENZON. — Sumatra block, spot £22 to £30 as to quality.

BUCHU. — Spot rounds, 3s. 6d. per lb., shipment, 3s. 1d., c.i.f.

CALABAR BEANS. — Spot, 1s. 8d. per lb.

CALAMUS. — Root, 1s. 2d. per lb., c.i.f.

CALUMBA. — Root, 100s. per cwt., spot: 87s. 6d., c.i.f.

CHERRY BARK. — Thin natural, 1s. 6½d. per lb.; rossed, 1s. 11d.

CLOVES. — Zanzibar spot, 2s. 9d. per lb.; shipment, 2s. 5½d., c.i.f.

COCHINEAL. — Black-brilliant, 12s. 9d. per lb., spot; Peruvian silver-grey, 4s. 6d.

COCILLANA. — Bark, 2s. per lb., spot.

COLOCYNTH PULP. — Spot, 2s. to 2s. 6d. per lb. as to quality.

DIGITALIS. — *Purpurea* for shipment, 1s. 2½d. to 2s. 7d. per lb., c.i.f., as to test.

ELEMI. — Spot, 2s. 3d. per lb.; shipment, not offering.

ERGOT. — Portuguese, 5s. per lb., c.i.f.; spot, 5s. 6d. East European not offering.

FRANGULA. — Spot, 105s. per cwt.

GENTIAN. — Spot: French, 155s. per cwt.

GINGER. — African, spot, 165s. June, 155s., c.i.f. Jamaican No. 3, spot, 205s.; shipment, 195s., c.i.f. Cochin, shipment, new crop, 160s., c.i.f.

GUM ACACIA. — Kordofan cleaned sorts, 175s. per cwt., spot; June–July shipment, 166s., c.i.f.

HENNA. — Indian, spot, 90s. per cwt.

HONEY. — Australian light amber, 92s. 6d. to 97s. 6d. and medium amber, 87s. 6d. to 92s. 6d. Argentine, 102s. 6d. to 105s.; Jamaican, 115s. to 120s.; Canadian clover, 145s. to 150s., all per cwt. on the spot ex warehouse.

IPECACUANHA. — Matto Grosso 54s. 6d. per lb., c.i.f. Colombian, 53s. 6d., c.i.f. Costa Rican, 73s., c.i.f. Matto Grosso spot, 55s.

JUNIPER BERRIES. — Italian 90s. per cwt., spot.

KARAYA. — No. 1 gum, spot 265s. to 285s. per cwt., No. 2, 225s.

KOLA NUTS. — Jamaican for shipment, 7d. per lb., c.i.f. African, 5½d. spot and 4d., c.i.f.

LANOLIN. — ANHYDROUS, B.P. is from 170s. to 175s. per cwt. in 1-ton lots and HYDROUS, B.P., 150s., free drums, delivered.

LEMON PEEL. — Spot, 2s. 6d. per lb.; shipment, 230s., c.i.f.

LINSEED. — Whole, 85s. per cwt.; crushed, 110s.

LIQUORICE. — Natural root: Persian on the spot, 46s. 6d. per cwt. Block juice: Anatolian from 190s. per cwt.; Italian stick from 310s. to 470s. per cwt.

LOBELIA HERB. — American, 4s. 9d. per lb., spot.

MACE. — Whole pale blade, 24s. per lb., spot.

MENTHOL. — Chinese, 66s. 6d. per lb., duty paid as to seller; shipment not offer-

ing. Brazilian, 52s. 6d., in bond; 52s. 6d., c.i.f.

NUX VOMICA. — Spot, 125s., cwt.; shipment, 105s., c.i.f.

ORANGE PEEL. — Spot: Sweet ribbon, 2s. per lb.; bitter quarters: West Indian, 1s.; Spanish, 1s. 9d.; bitter ribbon, 1s. 6d.

ORRIS ROOT. — Florentine, 350s. per cwt.

PAPAIN. — Tanganyikan, 14s. per lb., c.i.f., for grade one, spot, 15s. Ceylon, No. 1 white, 13s. 6d., c.i.f.: brown, 10s., c.i.f.

PEPPERMINT LEAVES. — Dutch whole, 1s. 11d. to 2s. 7d. per lb., c.i.f.

PIMENTO. — Spot, 590s. cwt.; shipment, 500s., f.o.b.

PODOPHYLLUM. — *Emodi*, 200s. per cwt. spot, and 185s., c.i.f., for shipment, *Peltatum*, spot value, 375s.

PYRETHRUM. — Extract, minimum, 25 per cent. w/w pyrethrins, 75s. per lb. for small lots.

QUASSIA. — Spot, 55s. per cwt., ex wharf.

QUILLAIA. — Short. Spot whole bark is now 130s. per cwt. nominal.

RHUBARB. — Chinese small round from 5s. 9d. to 6s. 9d. per lb. on the spot.

SAFFRON. — Mancha selecta, 147s. 6d. per lb.

SARSAPARILLA. — Jamaican native red on spot, 2s. 5d. per lb.; shipment, 2s. 1d., c.i.f.

SEEDS. — (Per cwt.). ANISE. — Bulgarian, 117s. 6d.; Spanish, 165s., duty paid. CARAWAY. — Dutch 170s., duty paid. CELERY. —

Indian, 142s. 6d., spot; shipment, 120s., c.i.f., quoted. CORIANDER. — Rumanian, 65s., duty paid; Moroccan, 52s. 6d., duty paid; shipment, 45s. 6d., c.i.f. CUMIN. —

Indian, 230s., spot; Iranian, 230s., duty paid; Indian, 180s., c.i.f. DILL. — Indian, 95s., shipment, 80s., c.i.f. FENNEL. — Chinese has been sold at 85s., duty paid; Indian, 120s., nominal. FENUGREEK. —

Moroccan, 54s., duty paid; shipment (new crop), 33s. 6d., c.i.f. MUSTARD. — English, 93s. to 100s., according to quality.

SENEGA. — Spot, 18s. 6d. per lb.

SENNA. — *Tinnevely* LEAVES, prime No. 1, 1s. 5d. per lb., f.a.q.; No. 3, 9d. Pods: manufacturing (f.a.q.), 9d. and

hand-picked, 1s. 6d. to 1s. 10d. *Alexandria* pods: Manufacturing, 1s. 6d.; new crop hand-picked, 5s. to 6s.

SHELLAC. — F.O.T.N., 200s. per cwt.; No. 1, 222s. 6d.; F.O., 232s. 6d. to 282s. 6d., spot.

SQUILL. — White 85s. per cwt., spot.

STRAMONIUM. — Indian LEAVES 60s. per cwt., spot. Dutch 0.5 per cent. alkaloid 93s., c.i.f.

STYRAX. — Spot, 33s. per lb., shipment, 31s., c.i.f.

TONQUIN BEANS. — Para spot, 7s. 6d. per lb. Shipment about 7s., c.i.f. Angostura 11s.

TRAGACANTH. — No. 1 ribbon, £135 to £140 per cwt. No. 2, £125 to £130.

TURMERIC. — Madras finger on spot is 105s. per cwt.; new crop, prompt shipment, 87s. 6d., c.i.f.

VALERIAN ROOT. — Spot: Indian (with rootlets), 130s. and Belgian, 175s. per cwt. Dutch whole (max. 2½ per cent. sand) for prompt shipment, 173s., c.i.f.

VANILLIN. — Rates (per lb.) are now: — 5-cwt. lots, 23s. 3d.; 1-cwt., 23s. 6d.; 56-lb., 23s. 9d.; smaller quantities, 24s.

WAXES. — (Per cwt.). BEES'. — Dar-es-Salaam, spot, 485s.; shipment, 480s., c.i.f. Abyssinian, spot 410s. in bond; shipment, 380s., c.i.f. Benguela, shipment, 380s., c.i.f. Sudanese, spot, 440s.; shipment, 380s., c.i.f. CANDELILLA, spot, 480s.

CARNAUBA, fatty grey, spot, 570s.; shipment, 560s., c.i.f.; prime yellow, spot, 825s., shipment, 765s., c.i.f.

Essential and Expressed Oils

ALMOND. — Moroccan, 6s. per lb., duty paid.

AMBER. — Rectified on the spot, 1s. 6d. per lb.

ANISE. — Chinese, 7s. 3d. per lb., spot: shipment, 7s. 2d., c.i.f.

ARACHIS. — Spot, 2–5-ton lots naked ex mill, £142 per ton.

BAY. — West Indian, 12s. 6d. per lb. on the spot.

BERGAMOT. — Spot, from 72s. 6d. per lb. BOIS DE ROSE. — Brazilian, 15s. 3d. per lb. on the spot and 14s. 9d., c.i.f.

CADE. — Spanish, 3s. 6d. per lb. for drum lots.

CAJUPUT. — Spot from 9s. per lb.

CALAMUS. — Spot, 56s. 6d. per lb.

CAMPHOR, WHITE. — Chinese, 1s. 8d. per lb. in bond.

CANANGA. — Spot, from 38s. to 46s. 6d. per lb.

CARAWAY. — Imported oil, 26s. 6d. to 37s. 6d. per lb.

CARDAMOM. — From 330s. per lb. for English-distilled and 260s. for imported.

CINNAMON. — From quillings, best English-distilled is 50s. per oz.; other B.P. oils from 165s. per lb. Ceylon leaf, spot, 9s. 6d. per lb.; rectified, 10s. 6d. per lb.; Seychelles, 10s. 6d., spot.

CITRONELLA. — Ceylon, spot, 7s. 1½d.; shipment, 6s. 9d. per lb., c.i.f. Formosan, spot, 6s. 2d., in bond; shipment, 5s. 11d., c.i.f.

CLOVE. — Madagascar leaf, spot, 8s. 3d. per lb., duty paid; shipment, 6s. 9d., c.i.f. Rectified 87–88 per cent., 12s. Distilled bud-oil, English, B.P., 30s. to 31s.

EUCALYPTUS. — Australian 70 to 75 per cent. eucalyptol on the spot is 3s. 6d. per lb. 80–85 per cent., 4s. Spanish (70–75), 3s. 6d. spot. Chinese 3s. to 3s. 6d., duty paid.

JUNIPER. — B.P.C. 1949 oil is from 12s. 6d. per lb. on the spot. English-distilled, 180s. JUNIPER WOOD, from 5s.

LEMONGRASS. — Spot, 11s. 9d. per lb., and shipment, June–July, 11s., July–August, 10s. 10½d.

PALMAROSA. — Spot, 36s. 6d., per lb., 35s. 6d., c.i.f.

PEPPERMINT. — *Arvensis*: Chinese spot, 37s. per lb. Brazilian, 16s. spot and shipment, 16s., c.i.f. *Piperita*: Italian "Mitcham-type" from 42s. 6d. to 48s. 6d.; American, 25s. to 30s., as to origin.

PIMENTO. — English-distilled berry 167s. 6d. per lb.; imported, 77s. 6d. Rectified leaf, 27s. 6d. per lb. for small lots.

SANDALWOOD. — Mysore and East Indian, 125s. per lb.

UNITED STATES REPORT

NEW YORK, JUNE 14: White AMMONIUM CHLORIDE will be advanced 25 cents per 100 lb. to a new level of \$6, effective on July 1. Also to rise on July 1 will be POTASSIUM CHLORIDE, up by \$2 to \$29 a ton for the 99.9 per cent. type. The price of ACETYSALICYLIC ACID was increased by a cent to 64½ cents, a lb. while SALICYLIC ACID was also raised to make the U.S.P. crystals 51½ cents, up 1½ cents. CYANOCOBALAMIN was cut \$25 to \$95 per gm. Mexican SARSAPARILLA advanced two cents to 35 cents a lb. while TRAGACANTH, No. 1 ribbon, rose ten cents to \$3.75. In ESSENTIAL OILS higher per lb. were PIMENTO LEAF at \$2.35, up 15 cents, and East Indian SANDALWOOD, at \$19, up 25 cents. Peruvian BOIS DE ROSE, at \$1.80, was down five cents; and LAVENDER SPIKE at \$1.85, down 40 cents.

CUMULATIVE LIST OF AMENDMENTS TO THE C. & D. Quarterly Price List, June 1

A=Advanced; R=Reduced. ENTRIES NEW THIS WEEK ARE MARKED THUS ●

2-Minute Magic (385 DG)	57	0	28	6	9	6	
Achromycin (746 Lederle)							
capsules 50 mgm	25	10	10ea		16	3	TS
	100	40	6ea		60	9	TS
250 mgm	16	29	0ea		43	6	TS
	100	174	2ea		261	3	TS
	1000	1682	4ea		2523	6	TS
for ear solution							
vial powder	50 mgm						
vial diluent	10 cc	6	10ea		10	3	TS
intramuscular vial							
100 mgm	5	2ea			7	9	TS
intravenous vial	4	8ea			7	0	TS
250 mgm	9	8ea			14	6	TS
500 mgm	17	6ea			26	3	TS
ointment 3% 30 mgm	4	6ea			6	9	TS
1 oz	8	2ea			12	3	TS
ointment ophthalmic 1%							
10 mgm 6 x 1/2 oz tubes	6	10ea			10	3	TS
ophthalmic powder							
sterilised vial	5	6ea			8	3	TS
for oral suspension							
1.5 gm	1	10ea			16	3	TS
ophthalmic oil suspension							
1% 10 gm/cc							
dropper	6 cc	1	10ea		2	9	TS
pediatric drops	10 cc	7	4ea		11	0	TS
soluble tablets	100	40	6ea		60	9	TS
syrup	2	10ea			16	3	TS
	16 oz	78	0ea		117	0	TS
tablets 50 mgm	25	10	10ea		16	3	TS
	100	40	6ea		60	9	TS
250 mgm	16	29	0ea		43	6	TS
	100	174	2ea		261	3	TS
	1000	1682	4ea		2523	6	TS
troches 15 mgm	25	4	2ea		6	3	TS
Achromycin, V (746 Lederle)							
capsules 250 mgm	16	29	0ea		43	6	TS
	100	174	2ea		261	3	TS
	1000	1682	4ea		2523	6	TS
50 mgm	25	10	10ea		16	3	TS
	100	40	6ea		60	9	TS
pediatric drops	10 cc	7	4ea		11	0	TS
syrup	2	10ea			16	3	TS
	16 oz	78	0ea		117	0	TS
Alfonal (29 Alfonso)							
corn oil	1/2	12	0ea		15	0	
sunflower seed oil	1/2	18	9ea		25	0	
Amphedrex (195 Brook Parker)							
tablets	25	9	0ea		1	2	pls4B
	1000	9	0ea				pls4B
Andre Philippe (48 AP)							
after shave lotion 4 oz	102	15	0	7	6	2	6
after shave tale puffer	103	15	0	7	6	2	6
Ann French (655 ICC)							
golden tan		18	0	9	0	2	9
cleansing cream		15	9	7	11	2	6
Anthical (814 M&B)							
cream	1 oz	20	0	5	0	2	11
Apiella (450 Farthing)							
clear skin lotion	6 oz	57	0	27	10	9	6
vitaliser Plus	2 oz	252	0	122	10	42	0
Aprinox (147 Boots)							
tablets 2.5 mgm	100	11	6ea		15	4	
	500	52	0ea		69	4	
5 mgm	100	19	3ea		25	8	
	500	92	9ea		123	8	
Artane (746 Lederle)							
elixir	16 oz	9	10ea		14	9	
tablets 2 mgm	100	7	0ea		10	6	
	1000	58	6ea		87	9	
5 mgm	100	14	0ea		21	0	
	1000	116	2ea		174	3	
Ayrotabs (78 AS&Co)	50	40	0	10	0	6	4
Ayrton (78 AS&Co) tablets							
iron, vitamin and yeast (Ivy)	16	0	0			2	0
face cloths 'Smart Set'	301	18	0			2	6
hot water bottle The Argosy	52	0	0			6	6
scissors toe nail Edgware							
401							
tower display							
Barnet (617 Holloway)							
ladies brush sets Duette	A11	61	4	15	4	8	11
	A13	86	4	25	2	12	11
	A14	109	0	27	3	15	11
	A15	128	0	35	0	18	11
	A16, A17						
Annette	A29	61	4	15	4	8	11
	A30	102	0	25	6	14	11
Juliette	A31	64	8	16	2	9	6
	A32	109	0	27	3	15	11
Collette	A33	40	6	10	11	5	11
babies brush sets	A27	26	10	6	8	3	11
	A28	33	8	8	5	4	11
gents brush sets	A35	32	8	8	2	4	11
Bartex (477 AF&B)							
superlens clipovers						7	6
superlens sunglasses						12	9
						15	11
Becosed (901 Norton)							
elixir	16 oz	96	0	0	0	0	0
	80 oz	348	0	0	0	0	0
Bedeman (102 CB)							
lemou cream shampoo	21	9	5	5 1/2	1	0	
	3 doz	30	3	7	7	4	0
Bisodol (655 ICC) powder	30	15	2	3	10	2	0
tablets	100	36	0	9	0	4	9
Broxil (1393 BRL)							
syrup	60	222	0	0	0	18	6
tablets 125 mgm	24	192	0	0	0	24	0
250 mgm	24	352	0	0	0	44	0
125 mgm	12	0	0	0	0	0	0
250 mgm	12	0	0	0	0	0	0
Calcipen-V (147 Boots)							
125 mgm	60	106	0	0	0	13	3
Cambison (614 Hoechst) ointment							
(distributors 621 Horlicks)							
0-25% ..	5 gm	40	0	9	9	5	10
	20 gm	128	0	31	2	18	7
0-5% ..	5 gm	64	0	15	7	9	3 1/2
	20 gm	204	0	49	9	29	8
Camyna (969 Pfizer)							
tincture	20	4	3ea	1	0 1/2ea	7	6
lotion	20	4	0ea	1	0ea	7	0
Caphedrodine (211 Butler)							
	16 oz	174	0	0	0	21	9
	80 oz	840	0	0	0	105	0
Carters (1003 PP) little liver pills	9	7	2	5	4		
	4 doz	4	4 doz				
Carboxymethylcellulose (746 Lederle)							
jelly 4-5% ..	15 cc	2	4ea			3	6
Cascade (814 M&B)							
photographic wetting agent							
30 mls	36	0	0	0	0	4	6
500 mls	120	0	0	0	0	15	0
Censedal (814 M&B)							
tablets 200 mgm	500	560	0	0	0	70	0
Chanel (247 Chanel) toilet soap,	20	8	5	2	3	0	
bath	37	10	9	6	5	6	
Chase Biocel (327 WC)							
remove cleansing cream	49	6	24	9	8	3	
skin beauty cream	49	6	24	9	8	3	
moisturising cream	49	6	24	9	8	3	
hand cream	31	6	15	9	5	3	
Chesties (1215 Teasdale)	5 lb	2	11b	7 1/2lb	1	0qtr	
Choice (1388 Durazone)							
garden spray aerosol	6 oz	29	9	0	0	2	11
Christmas in July (150 Bourjois)							
skin perfume	48	8	24	4	8	6	
perfume purse flacon	54	4	27	2	9	6	
presentation	111	6	55	9	19	6	
"Spray Mist"	100	0	50	0	17	6	
cologne stick	31	6	15	9	5	6	
toilet soap	3	39	6	9	10 1/2	5	9
bath cubes	6	26	0	13	0	4	6
talcum	31	6	15	9	5	6	
Cologne	60	0	30	0	10	6	
	30	10	7	8 1/2	4	6	
Clearasil (1277 Vick)							
Crescent (347 Dalmas)							
corn rings thin	12	13	8	0	1	7	
thick	12	16	0	0	1	10 1/2	
bunion rings thin	6	13	8	0	1	7	
thick	6	16	0	0	1	10 1/2	
Cussons (388 Cussons)							
wild lavender skin							
perfume	5747	26	2	12	9	4	7
soap	2158	9	6	2	3 1/2	1	3
sparkling wild lavender							
bath cubes	5521	3	1	1	6	6	
Cycloserine with INH (413 Lilly)							
Pulvules	40	61	8	0	0	92	6
	100	146	8	0	0	220	0
	500	716	8	0	0	1075	0
Dalmas (347 Dalmas) first aid dressings							
wallets	12	7	0	0	0	10	
waterproof	12	8	6	0	0	1	0
	21	6	0	0	0	2	6
elastic finger dressing	3	6	0	0	0	5	
elastic adhesive first aid							
dressing	assorted	gross 6	9ea			9	6
	1 1/2 x 3 1/2 in	gross 5	0ea			7	0
	2 1/2 x 3 1/2 in	gross 7	6ea			10	6
	3 x 3 in	gross 9	1ea			12	9
	1 1/2 x 2 in	gross 15	0ea			21	0
	2 x 3 in	gross 24	0ea			33	8
	2 1/2 x 3 1/2 in	gross 32	0ea			45	0
	3 1/2 x 4 1/2 in	gross 58	0ea			81	3
	3 1/2 x 4 1/2 in	gross 7	0ea			9	10
patchettes							
elastic orthopaedic							
strapping	2 in x 3 yd	40	8ea			4	9
	2 1/2 in x 3 yd	49	9ea			5	9
	3 in x 3 yd	58	8ea			6	10
	4 in x 3 yd	76	9ea			9	0
vaccination dressings N.H.S.	4	0	0	0	0	6	
elastic N.H.S.	child	3	10	0	0	5 1/2	
	adult	6	6	0	0	9	
waterproof	child	8	6	0	0	1	0
	adult	8	6	0	0	1	0

boil dressings No. 3 ..	6	0	2	0	1	1½
elastic wound dressings						
small	5	0	..	..	7	
medium	7	0	..	..	10	
large	9	0	..	..	1	1
ex large	13	9	..	..	1	8
salicylic acid corn plasters						
20% N.H.S.	3	2	1	0	7	
poppy-lastic corn straps	6	0	2	0	1	1½
umbilical pads ..	13	0	..	..	1	6
eye shades rigid cloth	4	9	..	..	7	
elastic cloth	5	3	..	..	7½	
Dalzo (347 Dalmas)						
zinc oxide plaster ½ in x 1 yd	4	3	..	..	6	
1 in x 1 yd	5	3	..	..	7½	
½ in x 3½ yd	8	6	..	..	1	0
1 in x 3½ yd	13	6	..	..	1	7
½ in x 5 yd	11	6	..	..	1	4
1 in x 5 yd	12	6	..	..	1	5½
½ in x 5 yd	16	8	..	..	1	11½
1 in x 5 yd	19	0	..	..	2	3
1½ in x 5 yd	27	3	..	..	3	2
2 in x 5 yd	33	3	..	..	3	10
2½ in x 5 yd	41	9	..	..	4	10
3 in x 5 yd	47	0	..	..	5	6
4 in x 5 yd	61	6	..	..	7	2
½ in x 10 yd	18	0	..	..	2	1
1 in x 10 yd	20	8	..	..	2	4½
1½ in x 10 yd	28	6	..	..	3	4
2 in x 10 yd	32	0	..	..	3	9
2½ in x 10 yd	47	6	..	..	5	6
3 in x 10 yd	59	6	..	..	7	0
4 in x 10 yd	73	0	..	..	8	6
4½ in x 10 yd	83	4	..	..	9	9
5 in x 10 yd	104	0	..	..	12	2
zinc oxide adhesive felt						
4½ x 3 in thin	11	6	..	..	1	4
4 x 3 in medium N.H.S.	11	6	..	..	1	4
3 x 3 in thick	11	6	..	..	1	4
6 x 6 in thin	23	0	..	..	2	8
6 x 4½ in medium	23	0	..	..	2	8
4½ x 4 in thick	23	0	..	..	2	8
Dalzo (347 Dalmas)						
elastic zinc oxide plaster						
½ in x 1 yd	7	0	..	..	10	
1 in x 1 yd	11	3	..	..	1	4
2 in x 1 yd	17	6	..	..	2	1
2½ in x 1 yd	20	0	..	..	2	4
½ in x 3 yd	17	6	..	..	2	1
1 in x 3 yd	24	6	..	..	2	10
1½ in x 3 yd	31	0	..	..	3	7
2 in x 3 yd	40	8	..	..	4	9
2½ in x 3 yd	49	9	..	..	5	9
3 in x 3 yd	58	8	..	..	6	10
elastic adhesive bandage						
2 in x 3 yd	40	8	..	..	4	9
2½ in x 3 yd	49	9	..	..	5	9
3 in x 3 yd	58	8	..	..	6	10
4 in x 3 yd	76	9	..	..	9	0
Daylight II (1027 Rank)						
projector ..	..	..	..	..	895	0
fibre carrying case ..	..	..	..	..	102	6
Decalex (814 M&B) x ray						
developer-replenisher 40 oz	200	0	..	..	25	0
1 gal	720	0	..	..	90	0
Decaserpyl (1087 Roussel)						
tablets 5 mgm ..	500	190	0ea	..	285	0
10 mgm ..	20	192	0	..	24	0
100	76	Sea	..	..	115	0
500	350	0ea	..	..	525	0
Declair (76 Atkinson) lotion						
27 2 ..	13	2	..	..	4	6
Dentiline (430 Eueryl)						
20 0 ..	5	0	..	..	2	9
refill ..	17	4	..	..	2	5
Di-Adreson (917 Organon)						
tablets 1 mgm ..	30	38	0	..	4	9 TS
100	108	0	..	..	13	6 TS
500	432	0	..	..	54	0 TS
5 mgm ..	30	132	0	..	16	6 TS
100	390	0	..	..	48	9 TS
500	1860	0	..	..	232	6 TS
Di-Adreson-F (917 Organon)						
tablets 1 mgm ..	30	3	2ea	..	4	9 TS
100	9	0ea	..	..	13	6 TS
500	36	0ea	..	..	54	0 TS
5 mgm ..	30	11	0ea	..	16	6 TS
100	32	6ea	..	..	48	9 TS
500	155	0ea	..	..	322	6 TS
Diamox (746 Lederle)						
vial ..	500	18	0ea	..	27	0
tablets 250 mgm ..	25	12	8ea	..	19	0
100	42	4ea	..	..	63	6
1000	391	6ea	..	..	587	3
● Diotroxin (518 Glaxo)						
tablets 100 dp ..	..	36	0	..	4	0 p1s4B
1000 dp ..	..	24	0ea	..	32	0 p1s4B
Distivit (378 DCBL)						
B12 injection 50 mcgm/ml 5 mil vial						
Dromoran (1074 Roche)						
tablets 1-5 mgm ..	20	36	0	..	4	6
Elastoplast (1155 S&N)						
first aid dressings						
1½ x ¾ in 100 11200	72	0	..	..	8	6
2½ x ¾ in 100 11300	93	0	..	..	10	9
1½ x 1½ in 100 11500	108	0	..	..	12	6
1½ x 2½ in 100 11600	153	0	..	..	17	9
2 x 3 in 100 11700	225	0	..	..	26	3
waterproof						
1½ x ¾ in 100 12200	72	0	..	..	8	6
2½ x ¾ in 100 12300	93	0	..	..	10	9
1½ x 1½ in 100 12500	108	0	..	..	12	6
1½ x 2½ in 100 12600	153	0	..	..	17	9
2 x 3 in 100 12700	225	0	..	..	26	3

airstrip	1½ x ¾ in 100	14200	108	0	..	..	12	6
	2½ x ¾ in 100	14300	138	0	..	..	16	0
	1½ x 1½ in 100	14500	159	0	..	..	18	6
	1½ x 2½ in 100	14600	231	0	..	..	27	0
	2 x 3 in 100	14700	339	0	..	..	39	6
A Flastoweb (1155 S&N)	stretched 3 x 6/7 yd ..	3603	89	6	..	..	10	6
Elix. creosote-codeine co. (211 Butler)	16 oz	78	0	..	..	..	9	9
	80 oz	330	0	..	..	..	41	3
Elix. polyphosph. co. (211 Butler)	16 oz	36	0	..	..	..	4	6
Energen (421 Energen) rolls 60	6 oz	49	6	..	..	..	5	0
crispbread ..	6 oz	..	..	..	..	..	1	6
Enseals (413 Lilly)	potassium thiocyanate 65 mgm (gr 1)							
	250 mgm (gr 3)							
Ephpect-Forte (266 Clarnell)	4 oz	60	0	15	0		5	7
Eyemakers a la Carte (1052 Revlon)								
eyebrow pencil propelling	refills (3)	72	0	36	0		12	6
		27	0	13	6		4	6
eyebrow pencil short ..		36	0	18	0		6	0
eyebrow brush ..		31	0	15	6		4	6
eye lash tipping ..		129	0	64	6		21	6
eye liner pencil ..		45	0	22	6		7	6
frosted ..		57	0	28	6		9	6
eye liner pencil sharpener		45	0	22	6		6	6
eye liner liquid ..		63	0	31	6		10	6
frosted ..		87	0	43	6		14	6
brush ..		65	0	32	6		9	6
eye shadow stick ..		51	0	25	6		8	6
eye shadow pan ..		87	0	43	6		14	6
gold, silver, gold bronze		105	0	52	6		17	6
platinum, platinum/gold		147	0	73	6		24	6
eye shadow brush ..		72	0	36	0		10	6
mascara cake ..		45	0	22	6		7	6
refills ..		30	0	15	0		5	0
roll on ..		81	0	40	6		13	6
refills ..		52	6	26	3		8	9
frosted roll on		93	0	46	6		15	6
remover pads ..		63	0	31	6		10	6
Fennings (1100 JS)								
cooling powders								
childs ..	100	70	0	17	6		1½	
tablets adults ..	30	..	..	..	..
Ferrodic (34 A&H)								
tablets ..	100	54	0	..	..		6	0
Floid (900 Norton)								
after shave with tan ..	87	0	43	6			14	6
Folvite (746 Lederle) elixir 4 oz	9	4ea	..	..	..		13	0
solution 15 mgm/ml	8	8ea	..	..	..		13	0
vial 10 mils ..	100	9	2ea	..	..		13	9
tablets 5 mgm ..	1000	85	0ea	..	..		127	6
Folvron (746 Lederle)								
capsules ..	100	13	0ea	..	..		19	6
1000	110	6ea	..	..	..		165	9
elixir ..	16 oz	12	10ea	..	..		19	3
tablets ..	100	13	0ea	..	..		19	6
1000	110	6ea	..	..	..		165	9
Frarnycort (502 Genatosan)								
sterile eye and ear drops								
5 mils	58	0	..	..	..		7	3 TS
Frarnygen (502 Genatosan)								
sterile eye and ear drops								
5 mils	45	0	..	..	..		5	7 TS
Freezeheat (191 BVF) Vax								
16 oz X16	57	0	7	0			6	11
16 oz V11, V12	22	9	..	5 8½			2	11
Fynnon (104 BP) salt								
Gala (876 MP) "Bronze								
Touch" lotion	51	0	25	6			8	6
Gev-e-tabs (584 H)								
16 days ..	96	7	..	..	..		11	6
32 days ..	180	7	..	..	..		21	6
Gevral (746 Lederle)								
capsules ..	30	11	4ea	2	10ea		19	10
Gin Fizz (Lubin (I Abbey))								
soap box of 3 ..	102	0	25	6			13	6
talc ..	62	0	31	0			10	3
Glean (504 GP&B)								
lens tissues ..	7	6	..	..	..		6	
2 doz	..	..	..	..	..		..	..
Gluco-juice (430 Eueryl)								
Gluferate (1352 Wyeth)								
tablets ..	250	128	0	..	..		14	3
Glumorin (452 FBA)								
tablets 30 bu ..	20	130	0	..	..		16	3
Goya (532 Goya)								
gold metal compact ..	51	0	25	6			8	6
pearl and gold cocktail compact	27	0	13	6			4	6
Gualime (940 PK)		28	9	..	..		3	0
Guavim (940 PK)		28	9	..	..		3	0
Guavo (940 PK)		28	9	..	..		3	0
Gynomin (276 C&C) tablets 12		31	6	..	..		3	6
Hanovia (1373 Hanovia)								
prescription lamps								
model 4 UV only ..	..	..	..	..	..		440	0
6 UV and IR ..	..	..	..	..	..		500	0
7 UV and IR ..	..	..	..	..	..		540	0
Hansons (202 Bryten)								
catarrh compound ..	12	6	3	1			2	0
adult cough balsam ..	13	6	3	4			2	3
Hetrazan (746 Lederle)								
tablets 50 mgm	100	10	0ea				15	0
1000	83	6ea					125	3
Houseproud (942 Passmill)								
extra soft toilet tissue	7	8	..	..	..		1	3
Heparin (147 Boots) injection B.P.								
1,000 i.u. (mil) vial 5 mils	34	0	..	..	..		4	3

25000 in per mil	5 mls	45	0ea	..	67	6
freeze dried pdr.	100000 in	43	0ea	..	64	6
Radiol (1023 Radiol) worm powder						
A (Ascarids) ..	2 oz	45	0 ..	..	5	0
S (Strongyles) ..	3 oz	45	0 ..	..	5	0
Rayhita (1277 VI)	..	30	10	7 8½	4	6
Resochin (452 FBA)						
tablets ..	100	176	0 ..	..	22	0
Resotren (452 FBA)						
tablets ..	300	1472	0	368 0	214	8 pl
Reudel (655 ICC) bath salts	..	15	2	3 10	2	0
Revicaps (746 Lederle)	..	16	10ea	4 3ca	29	6 pls4B
Revitone (1074 Roche)						
syrup ..	6 oz	24	0	6 0	3	6 pl
dp 80 oz	216	0 ..	..	..	27	0 pl
Rikospray (1061 Riker)						
silicone ..	..	15	4ea	3 10ea	23	0
benzocaine ..	..	12	0ea	..	18	0
Ro-A-Vit (1074 Roche)						
tablets 50,000 in	..	30	84	0 ..	10	6
..	200	480	0 ..	..	60	0
drops 150,000 in mil 7-5 mls	..	68	0 ..	..	8	6
Roberts Windsor (1070 Windsor)						
soap luxury size ..	1106	11	7	2 9	1	6
Roccal (97 Bayer)						
antiseptic ..	6 oz	17	4 ..	..	2	2
..	16 oz	38	0 ..	..	4	9
..	80 oz	135	0 ..	..	15	9
Delete tincture ..	6 oz	..	..	..	..	..
..	80 oz	..	..	..	..	..
Romilar (1074 Roche)						
syrup, 15 mgm/5 mls						
100 mls	48	0 ..	..	..	6	0 pl
500 mls	220	0 ..	..	..	27	6 pl
tablets, 15 mgm	..	20	36	0 ..	4	6 pls1
..	100	144	0 ..	..	18	0 pls1
..	200	264	0 ..	..	33	0 pls1
expectorans, syrup	100 mls	48	0 ..	..	6	0 pl
500 mls	220	0 ..	..	..	27	6 pl
Serpasil-Esidrex (262 CIBA)						
tablets ..	25	64	0 ..	..	8	0 pls4B
..	100	224	0 ..	..	28	0 pls4B
..	500	88	Sea	..	133	0 pls4B
Somnifaine (1074 Roche)						
ampoules, 2 mls	..	6	53	4 ..	6	8 ts4A
Spa (1167 Spa) brushes						
hair, ladies' nylon styling						
featherweight ..	24	0	6	0	3	6
Sparine (1352 Wyeth)						
tablets 25 mgm	..	50	66	7 ..	7	5 pls4B
..	250	308	0 ..	..	34	3 pls4B
50 mgm	..	50	127	8 ..	14	3 pls4B
..	250	580	11 ..	..	64	7 pls4B
100 mgm	..	50	240	6 ..	26	9 pls4B
..	250	1137	9 ..	..	126	5 pls4B
injection 2 mls	..	10	122	0 ..	13	7 pls4B
Sportsman (645 Ilford)						
colour filters ..	..	154	0	38 0	22	5
Spray Set (532 Goya)						
Sulphadiazine (746 Lederle)	..	51	0	25 6	8	6
tablets BP 0.5 gm	..	100	10	0ea	15	0 pls4B
..	500	48	4ea	..	72	6 pls4B
..	1000	96	Sea	..	145	0 pls4B
Sulphamagna (1352 Wyeth)						
4 oz	100	0	25	0	13	3 ts4BTS
Surfadil (413 Lilly)						
cream ..	28 gm	36	0 ..	..	4	6
Tabac (963 PBP)						
deodorant spray	14/48	51	8	25 2	8	6
cologne ..	14/49	48	4	23 7	7	11
shave cream lather	14/50	38	11	9 6	5	6
brushless	14/51	38	11	9 6	5	6
pre-electric shave						
lotion ..	14/52	47	0	22 11	7	9
T.B.P. (174 BA)						
hair and scalp treatment	..	15	9	3 10	2	1
..	27	0	6	7	3	6½
Tan-Glo (312 AC)						
suntan creme ..	30 gm	11	6	5 9	2	6
Taumasthman (1301 WM)						
tablets ..	60	73	0 ..	..	..	pl
..	250	234	0 ..	..	..	pl
Tercin (179 BDH)						
tablets ..	200	66	0 ..	..	8	3 ts4A
..	1000	306	0 ..	..	38	3 ts4A
Teropterin (746 Lederle) solution						
10 mgm/ml 10 vial mls	..	42	2ea	..	63	3
Terpacol (195 Brook Parker)						
4 oz	40	0 ..	..	..	..	pl
8 oz	70	0 ..	..	..	..	pl
16 oz	126	0 ..	..	..	..	pl
80 oz	50	0ea	..	..	..	pl
Tersavid (1074 Roche)						
tablets 50 mgm	..	50	88	0	22	0 12 10
..	250	336	0	84	0	49 0
Thephorin (1074 Roche)						
tablets 25 mgm	..	1000	864	0 ..	108	0 pls7
Tokalon (1240 Tokalon)						
hand cream ..	..	8	1	4 0½	1	3
..	13	1	6	6	2	0
Tranquilex (1053 Rexall)						
40	48	0 ..	..	..	5	9 pls4B
120	125	0 ..	..	..	15	0 pls4B
Trust (671 Jeyes)						
toilet roll ..	..	12	4	..	1	4
Tumeson (614 Hoechst) (distributors 621 Horlicks)						
ointment ..	5 gm	40	0	9 9	5	10
..	20 gm	128	0	31 2	18	7

Tussinf (195 Brook Parker)	4 oz	25	0 ..	..	..	pl
..	8 oz	39	0 ..	..	..	pl
..	16 oz	66	0 ..	..	..	pl
..	80 oz	24	0ea	..	..	pl
Tylenol (1383 McNeil)						
elixir ..	4 oz	56	0 ..	..	7	0
Tyordac (346 Dales)						
pastilles ..	100	10	6ea	..	..	..
..	250	24	6ea	..	..	..
Varidase (746 Lederle)						
buccal tablets	..	12	21	8ea	..	32 6 TS
Vasogen (720 Lactogol)						
silicone	50 gm	46	3	11 7	6	6
Veractil (814 M&B)						
tablets 5 mgm	..	50	36	0 ..	..	4 6 pls4B
..	500	300	0 ..	..	37	6 pls4B
25 mgm	..	50	110	0 ..	13	9 pls4B
..	500	980	0 ..	..	122	6 pls4B
100 mgm	..	50	380	0 ..	47	6 pls4B
..	500	3340	0 ..	..	430	0 pls4B
ampoules 2.5% 1 mil	..	10	100	0 ..	12	6 pls4B
Vita-E (127 Bioglan)						
gels 800 in	..	100	260	0ea	..	390 0
Viules (147 Boots)						
Hydrocortistab						
25 mgm/1 mil	..	6	8	3ea	..	11 0 TS
50 mgm/2 mls	..	6	16	6ea	..	22 0 TS
morphine sulphate gr ½ mil	6	42	0 ..	..	5	3sIDD
heparin,	25000 IU/ml	single	120	0 ..	..	15 0
Warricks (1311 Warrick)						
linseed, liquorice and chloro-						
dyne lozenges ..	2 oz	7	6 ..	..	..	11
Wellcome (208 BW)						
aminophylline BP						
intramuscular 0.5 gm						
in 2 cc	..	5	33	9 ..	..	3 9
Delete pack of ..	..	6	..	..	..	..
Woodwards (1346 Woodward)						
gripe water ..	..	17	8	4 3	2	3
Wyovin (1352 Wyeth)						
tablets ..	50	54	0 ..	..	6	0
with phenobarbitone	50	63	0 ..	..	7	0 ts4A
Yardley (1355 Yardley)						
hair tonic for men	2231	36	0	18 0	6	0
eau de cologne for men	2029	97	0	48 6	16	2
after shave lotion	2059	58	0	29 0	9	8
Florentine lipstick case	45	0	22	6	7	6
Delete lipstick ..	69	..	..	..	..	..
Yaxa (261 Christy)						
deodorant stick	..	19	6	9 9	3	3
mini-fragrance	..	75	0	37 6	12	6
roll-on ..	..	27	0	13 6	4	6
refills ..	..	21	0	10 6	3	6

ADDITIONS TO KEY TO SUPPLIERS:

- (76 Atkinson) = J. & E. ATKINSON, LTD., 24 Old Bond Street, London, W.1. Hyde Park 7353.
- (89 Bairant) = BAIRANT, LTD., 186 Campden Hill Road, London, W.8. Park 7781.
- (100 Beaucaire) = BEAUCAIRE LABORATORIES, Bridson Street, London, S.E.15. New Cross 7144.
- Delete (120 BCP).
- (120 BGP) = B.G.P. COSMETICS, LTD., 37 Chesham Place, London, S.W.1. Belgravia 5679.
- (477 AF & B) = ALFRED FRANKS & BARTLETT CO., LTD., 226 Grays Inn Road, London, W.C.1. Terminus 9865.
- Delete (491 Gevaert).
- (491 GB) = GALE BAISS & CO., LTD., 274 Hilderton Street, London, S.E.15. New Cross 0094.
- (581 Haynor) = HAYNOR, LTD., 167 Greyhound Road, London, W.6. Fulham 4343.
- (614 Hoechst) = HOECHST PHARMACEUTICALS, LTD., Slough, Bucks. Slough 23222.
- (900 Norton) = M. & R. NORTON, LTD., 9 Park Hill, London, S.W.4. Macculay 2355.
- Delete (1004 Price).
- (1004 Price) = A. S. PRICE & CO., LTD., Park Street, Blackheath, Birmingham. Blackheath 2251.
- (1121 Searle) = G. D. SEARLE & CO., LTD., Lane End Road, High Wycombe, Bucks. High Wycombe 1770.
- Delete (1215 Teasdale).
- (1215 Teasdale) = TEASDALE & CO., LTD., P.O. Box 15, South Vale Works, Carlisle. Carlisle 26262.
- (1320 WP) = WEST PHARMACEUTICAL CO., LTD., 9 Palmeira Mansions, Church Road, Hove, 3, Sussex. Hove 772215.
- (1373 Hanovia) = ENGELHARD HANOVIA, LTD., Slough, Bucks. Burnham 500.
- Delete (1383 McNeil).
- (1383 McNeil) = MCNEIL LABORATORIES, LTD., High Wycombe, Bucks. Naphill 2264.
- (1397 Ellanby) = ELLANBY LABORATORIES, LTD., 146 Holborn, London, E.C.1. Chancery 9664.

NEW FILMS

Longer Life for B.C.G.

Glaxo Laboratories, Ltd., Greenford, Middlesex. 16mm. Colour. Sound. Running time fifteen minutes.

FOURTH in a series of documentary films reporting on typical research and development projects carried through at Glaxo Laboratories, Ltd., the film shows the manufacture and processing of the vaccine and explains the reasons for a longer-life product than the vaccine that was previously available.

CONTEMPORARY THEMES

Subjects of contributions in current medical and technical periodicals.

- ANTIOXIDATIVE EFFECT of amino-acids. *Nature*, June 11.
- MYCOSIOSES: a new class of type-specific glycolipids of *mycobacteria*. *Nature*, June 11.
- SERUM DETECTION of carcinoma. *Brit. med. J.*, June 11.
- BENZTHIAZOLE, an oral diuretic. Clinical evaluation. *Brit. med. J.*, June 11.
- THE SERUM LEUCINE AMINOPEPTIDASE TEST. *Brit. med. J.*, June 11.
- VASODILATOR DRUGS for peripheral vascular disease. *Brit. med. J.*, June 11.
- PHENMETRAZINE HYDROCHLORIDE and methylcellulose in the treatment of "refractory" obesity. *Lancet*, June 11.
- PHENMETRAZINE and dexamphetamine in the management of obesity. *Lancet*, June 11.
- BENOROFUAZIDE. The diuretic activity of. *Lancet*, June 11.
- FARNESOLIC ACID and its analogues. Inhibition of cholesterol biosynthesis. *Lancet*, June 11.
- MELATONIN. *Lancet*, June 11.
- EFFECT of altitude and soil treatment on the cardiotonic activity of *digitalis purpurea*. *Indian J. Pharm.*, May 1960.
- PHYTOCHEMICAL INVESTIGATION of *randia dumetorum* Lamk. fruits. *Indian J. Pharm.*, May 1960.
- A COMPLEXOMETRIC METHOD for the assay of strong solution of lead subacetate B.P. *Indian J. Pharm.*, May 1960.
- VACCINATION against rabies with duck-embryo and semple vaccines. *J. Amer. Med. Ass.*, May 28, 1960.
- FURALTAONE. New allergic reaction to. *J. Amer. Med. Ass.*, May 28, 1960.
- LEPROSY. Current status of the therapy of. *J. Amer. Med. Ass.*, May 28.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Monday, June 20

- FINCHLEY BRANCH, PHARMACEUTICAL SOCIETY. "Bull and Butcher." Whetstone, London, W.20, at 8 p.m. Darts trial match.
- LABORATORY APPARATUS AND MATERIALS EXHIBITION, Royal Horticultural Society's New Hall, Westminster, London, S.W.1. Until June 23.

Tuesday, June 21

- HERTEORO BRANCH, PHARMACEUTICAL SOCIETY, Allen & Hanburys, Ltd., Ware, Herts. Evening visit.

Wednesday, June 22

- LONDON CHEMISTS' GOLFING SOCIETY and SOUTH LONDON AND SURREY PHARMACEUTISTS' GOLFING SOCIETY, Royal Mid-Surrey Golf Club (Richmond 1894), Match.
- MICRO-CHEMISTRY GROUP, SOCIETY FOR ANALYTICAL CHEMISTRY, "The Feathers," Tudor Street, London, E.C.4, at 6.30 p.m. Discussion "Direct Determination of Oxygen."

Thursday, June 23

- EAST METROPOLITAN BRANCH, PHARMACEUTICAL SOCIETY, Ye Old Cocke hotel, High Street, Epping, at 6 p.m. Mr. L. W. G. Dawson (British European Airways) on "Health Hazards in Warm Places."

Friday, June 24

- SOUTH-WEST METROPOLITAN HOSPITAL PHARMACEUTISTS' COMMITTEE, Regional Hospital Board offices, 40 Eastbourne Terrace, London, W.2, at 6 p.m. General meeting. "Central Sterile Departments and the Hospital Pharmacist." Discussion opened by Dr. Harold Davis (chief pharmacist, Ministry of Health).

Correction.—The trifluoperazine speciality of Smith Kline & French Laboratories, Welwyn Garden City, Herts, is Stelazine and not as stated in a paragraph under "Notes on New Medicaments" recently.

TELEVISION

Figures in the columns represent number of appearances of the product during the week.

June 26 to July 2	London	Midland	North	Scotland	Wales	South	N.E.	Anglia	Ulster
Airwick ...	1	2	1	—	—	—	—	—	—
Alka-Seltzer ...	—	1	3	4	2	2	2	1	1
Anadin ...	—	3	4	4	8	6	4	5	—
Andrex ...	—	3	—	—	—	—	—	—	—
Askit ...	—	—	—	12	—	—	—	—	7
Aspro ...	—	5	3	5	5	15	5	4	4
Beecham's pills ...	2	1	2	2	—	—	1	—	—
Benbown dog ...	1	1	3	3	2	3	1	—	1
mixture ...	—	—	—	—	—	3	—	—	—
Biladin ...	—	—	—	—	—	—	5	—	—
Bisodol ...	—	5	3	2	3	—	4	—	6
Bodymist ...	—	—	1	—	—	—	—	—	—
Bristow's lanolin ...	—	—	—	—	—	—	—	—	—
shampoo ...	—	3	3	—	—	3	—	—	—
Coldrex ...	1	5	5	2	—	3	3	3	—
Cooper's aerosols ...	3	4	5	5	4	4	2	3	3
Cuticura ...	—	—	—	1	—	—	—	—	—
Delsey ...	—	3	5	—	—	—	—	—	3
Dextrosol tablets ...	3	3	—	—	—	3	—	—	—
Elliman foot cream ...	2	—	—	—	—	—	—	—	—
Euthymol tooth-paste ...	—	1	2	1	2	1	—	—	—
Ex-Lax ...	—	—	—	—	—	—	4	—	—
Flit ...	5	5	5	4	5	4	5	4	4
Focus ...	3	2	2	3	3	1	2	3	2
Fynnon salt ...	2	1	2	2	2	1	2	—	1
Germolene ...	4	5	1	3	—	4	2	3	3
Gillette ...	1	4	3	3	3	2	3	2	2
Ingram shaving cream ...	—	—	—	—	—	—	2	—	—
Kathleen Court ...	1	—	3	—	—	—	—	—	—
Kleenex ...	2	1	1	2	2	2	2	—	1
Klik ...	—	—	—	—	7	—	—	—	—
Kodak ...	1	2	3	5	4	3	3	2	—
Kwells ...	3	2	3	3	4	4	4	3	3
Loxene hair cream ...	1	2	2	2	3	4	2	3	2
shampoo ...	1	5	6	3	4	3	3	3	2
Macleans tooth-paste ...	2	2	3	4	2	3	3	3	3
Max Factor ...	2	2	2	2	2	2	2	2	—
Mix-A-Shake ...	—	—	—	—	—	—	3	—	—
Mum rollette ...	7	8	5	6	2	9	—	1	2
Pesodent tooth-paste ...	1	—	—	—	1	—	—	—	—
Phyllosan ...	1	1	1	—	1	—	—	—	—
Prom ...	—	2	3	3	3	3	3	2	3
Radox ...	3	—	—	—	—	—	—	—	—
Remington shavers ...	—	—	—	1	—	—	—	—	—
Rennies ...	—	—	—	—	1	1	2	2	1
Rinstead pastilles ...	2	1	1	1	2	1	1	—	2
Rivella ...	2	—	—	—	—	—	—	—	—
Ronson shavers ...	2	2	2	2	2	2	2	2	2
Saxin ...	3	—	—	—	—	—	4	—	—
ScotTowels ...	3	—	—	—	—	—	—	—	—
Sek ...	1	2	1	2	1	1	1	1	1
Setlers ...	2	—	2	—	2	1	1	—	—
Silvikrin hair cream ...	2	—	—	—	—	—	—	—	—
shampoo ...	1	1	4	3	3	3	3	3	—
Sparkleen ...	—	—	—	—	—	—	3	—	—
Spree fruit squash ...	6	6	6	6	6	6	6	6	6
Toni ...	2	2	3	4	3	2	3	3	2
Tru-gel ...	—	1	—	—	—	—	—	2	—
Twink ...	4	4	4	4	4	4	4	4	4
Winspray products ...	2	—	—	—	—	—	—	—	—
Yeast-vite ...	1	1	1	2	1	2	1	1	3
Zoflora ...	7	7	—	1	—	—	—	—	—

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," May 18

For chest supports for cameras, cine cameras, binoculars, monoculars, telescopes and for theatre glasses (9)

LAZYPOD, 798,638, by Wallace Heaton, Ltd., London, W.1.

For optical instruments and photographic apparatus (9)

PENTINA, 798,795, by Veb Kamera-und Kino-werke Dresden, Dresden, Germany.

For babies' napkins (25)

DIAPADS, 798,637, by Harringtons (London), Ltd., New Addington, Surrey.

From the "Trade Marks Journal," May 25

For pharmaceutical preparations for the treatment of debility in adult persons (5)

GLUTAMOS, 783,620, by Philip Harris, Ltd., Birmingham.

For dry-cleaning preparations and stain removing preparations (3)

SPECTROL, 793,001, by Pfeilring-Werke, A.G., Berlin-Charlottenburg, Germany.

For detergents (not for use in industrial or manufacturing processes) (3)

THRILL, B798,491, by Thomas Hedley & Co., Ltd., Newcastle-on-Tyne. LIQUEEN, 799,238, by Peter Coles, Ltd., Fittleworth, near Pulborough, Sussex.

For soaps for use in laundering elastic fabrics and elastic garments (3)

LASTOLYF, 800,226, by John Heathcoat & Co., Ltd., Tiverton, Devon.

For perfumes, non-medicated toilet preparations, cosmetic preparations, toilet rouge, toilet soap, essential oils, eau-de-Cologne, Brilliantine, hair lotions, dentifrices (3)

WE MET, 801,311, by Robert et Gallet, Paris, France.

PATENTS

(by permission, Controller, H.M. Stationery Office) COMPLETE SPECIFICATIONS ACCEPTED

From the "Official Journal (Patents)," June 1

Triazine derivatives, J. R. Geigy, A.G. 842,666. Thio-phosphonic acid esters. Farbenfabriken, A.G. 842,306.

Quaternary amide-zinc pentochlorophenolate salts. Chemische Werke Witten, G.m.b.H. 842,829.

Absorbent product. G. C. Graham, 842,464.

From the "Official Journal (Patents)," June 9

Pregnadienes, Schering Corporation, 843,211. Manufacture of nitrofurans derivatives. Norwich

Pharmaceutical Co. 843,602. Veterinary compositions containing nitrofurazone. Norwich Pharmaceutical Co. 843,605.

Therapeutic bisquaternary compounds. Irwin, Neisler & Co. 842,995.

Medicinal preparations for oral administration. Farbwerke Hoechst, A.G. vorm. Meister, Lucius & Brüning. 843,550.

Xanthoglabrol and its derivatives and the preparation thereof. Biorex Laboratories, Ltd. 843,132.

Glycyrrhetic acid derivatives. Biorex Laboratories, Ltd. 843,133.

Pharmaceutical compositions. Biorex Laboratories, Ltd. 843,134, 843,136.

Pentacyclic triterpene triols derived from glycyrrhetic acid and pharmaceutical compositions containing them. Biorex Laboratories, Ltd. 843,137.

Antibiotic ristocetin B. Abbott Laboratories. 843,560.

Derivatives of 2-piperidyl phenyl methanol. Soc. des Usines Chimiques Rhone-Poulenc. 843,070.

Process for the manufacture of carbamates and novel carbamates. F. Hoffmann-La Roche & Co. 843,331.

2-methyl-3-orthotolyl-4-quinoxaline and acid addition salts thereof. Laboratoires Torade. 843,073.

O-aminodialkyl oximes. CIBA, Ltd. 842,968.

Glycyrrhetic acid salts. Biorex Laboratories, Ltd. 843,135.

Pharmaceutical compositions containing piperidine derivatives. Imperial Chemical Industries, Ltd. 843,118.

Amines and processes for their preparation. May & Baker, Ltd. 843,264.

Process for the preparation of cyclopentanophenanthrene derivatives. Syntex, S.A. 843,108.

Process for the production of pregnadienes. Schering Corporation. 843,213, 843,217.

Steroid compounds. Schering Corporation. 843,214, 843,215, 843,216, 843,219.

Production of pregnadienes. Schering Corporation. 843,218.

6-methyl steroid compounds. The British Drug Houses, Ltd. 843,353.

Steroid lactones. G. D. Searle & Co. 843,155.

Steroid compounds. Laboratoires Français de Chimiotherapie. 843,516, 843,517.

Thiophosphoric acid esters. Farbenfabriken Bayer, A.G. 843,309.

Attachment means for deodorising, disinfecting or like blocks. W. & F. Walker, Ltd. 843,574.

Phosphonate compounds. Dow Chemical Co. 843,428.

British patent specifications are obtainable (price 3s. 6d. each) from the Patent Office, 23 Southampton Buildings, Chancery Lane, London, W.C.2.

